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# **USSR** Report

**AGRICULTURE** 

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# USSR REPORT AGRICULTURE

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# MAJOR CROP PROGRESS AND WEATHER REPORTING

## PRAVDA REPORTS ON PREPARATIONS FOR SPRING SOWING

LD200341 Moscow Domestic Service in Russian 0001 GMT 20 Feb 84

[From the "PRAVIA Review"]

[Text] As spring approaches, work in the countryside gathers momentum. In kolkhozes and sovkhozes, the structure of areas to be sown is being made more precise and this applies also to the technology of cultivation of agricultural crops. Snow retention work and other pre-spring operations are in progress. Special concern is shown for the seeds and their quality.

For the time being, not all the country's farms have ensured completely adequate stocks of seeds for the sowing of spring grain and leguminous crops. Seeds have been brought up to high sowing condition in Latvia, Ukraine, Chuvashia, Kuban, Belgorod and Ulyanovsk Oblasts.

However, in numerous farms in Georgia, Buryatia, Irkutsk and Kurgan oblasts, this work is lagging behind. As of early February, 86 percent of the country's tractors have been made ready for spring work. Ninety-six percent of ploughs have been readied, as have 95 percent of sowing machines, 95 percent of cultivating machines and 94 percent of potato planting machines.

Kolkhozes and sovkhozes of the RSFSR and Azerbaijan are overhauling sowing machines at a faster pace than last par, but there are also workforces that lag behind. This is especially the case in Kazakhstan and Turkmenia.

Work is in full swing as far as farm workers are concerned, for the period of cattle wintering has now reached its peak. Taking part in the all-union competition, many livestock breeders attain high results. As of early February, the country's farms dispatched 8 percent more cattle and poultry and 9 percent more milk to the procurement centers than was the case over the same period last year. Ukrainian and Belorussian farm workers are successfully carrying out their pledges: The increase in the cattle and milk purchased there amounted to 12 and 18 percent.

Nevertheless, the positions that have been conquered are beginning to be surrendered here and there. This applies, for instance, to Bashkiria, Kalmykia, Maritime and Krasnoyarsk Krays, Kirov and Tyumen oblasts, where the farms' milk sales to the state have dropped in comparison with 1983.

It is important to improve the situation faster and to catch up with what has been allowed to lag behind, PRAVDA emphasizes.

CSO: 1824/256

# SEED DRILL TRANSPORT DELAYS IN VOLGA AREA

LDO51619 Moscow Domestic Service in Russian 1200 GMT 5 Jan 83

[Summary] (Sergey Annyukin) in Penza Oblast, representing the Volga area, reports that the Belinskselmash works has dispatched the last batch of seed drills for Tajikistan farmers, fulfilling obligations exactly on time, while deliveries for Voronezh Oblast proceeded ahead of schedule. This year new seed drills for stony soils will be produced at this works. They have already been tested in the northwestern oblasts of the country and been highly assessed. Belinskselmash has begun preparing for production of drills for sowing rape.

"In short, the works is operating precisely, coping with its plans, but here the Volga men are having problems with the dispatch of the output which is ready. Here are the figures to date: There are 1,000 seed drills awaiting departure in the works' yard. The works have established set relations and set forms of working with the railwaymen. I think that the deputy director of the enterprise (Yakov Abramovich Kopchinskiy), who is now in the studio, is the best man to talk about this.

[Kopchinskiy] During last year, this work of transporting out the prepared output, joint work between the works services and the railways, did improve somewhat. Nevertheless, as our correspondent has already said, a large amount of seed drills has piled up at the works, since the railway is still not supplying us with enough rolling stock. Thus there will be a great demand on the managers of the Kuybyshev railways in January and February to provide the planned amount of wagons so that the rural workers can receive our equipment in time. We ask the managers of Tanbov and Saratov Oblasts, Mordva, to collect from us the equipment which they should have received in the current year themselves."

The correspondent asks why this is happening, and the answer is that while the works is producing the planned amount, there are shortcomings on the part of city transport services, and the planned amount of wagons is not being supplied.

Turning to the Voronezh deputy director, it is established that at Zernomash Association 960 wagons were supplied to clear the backlog. In Penza, the wagons wait a long time to be loaded as well. This must be improved.

Astakhov sums up with the fact that the Ministry of Tractor and Rural Machine-Building has told him that in the first days of the new year, enterprises in the ministry industry have begun working methodically, giving examples. Railwaymen are now in closer contact with the machine builders. Spring equipment

supplies are now in transit almost everywhere. There are, however, some breakdowns in the operation, as described from Penza. There are many machines awaiting dispatch at Volgograd tractor works, and about 5,000 harvesters are accumulated at Tula combine works. If they have to wait until summer, these machines will not be able to participate in the harvest. It is time for the managers of the Tula combine works and the railways to take the most urgent measures to dispatch these machines.

CSO: 1824/256

#### MAJOR CROP PROGRESS AND WEATHER REPORTING

# MOSCOW RADIO REPORTS AGRICULTURAL DEVELOPMENTS 15-DECEMBER-24 FEBRUARY

#### 15-20 Dec

LD220456 [Editorial Report] The following is a compilation of reports on agricultural developments in the USSR carried by Moscow Domestic Service in Russian on 15-20 December. Times of broadcasts are given in parentheses at the end of each item.

## 15 December

Warm and sunny weather reigns in Tajikistan and agricultural workers are completing the harvesting of late cotton. Machine operators are also starting to till the soil: more than 300,000 hectares of irrigated land must be prepared for next year's cotton harvest. The two main tasks being carried out in Nikolayev Oblast are the repair and overhaul of machinery and the overwintering of cattle. Overwintering has been far better organized this year and more milk is being obtained from every cow. The situation is somewhat worse in the fulfillment of the plan for grain production. Unfortunately, the oblast has not fulfilled planned tasks this year because the drought has been the worst experienced for a long time. (1200 GMT)

#### 16 December

In Kirgiziya first-class crops of wheat and barley have been produced in all agricultural areas. According to the republic's Ministry of Agriculture, these crops on areas requiring irrigation have exceeded 36 quintals per hectare, which is considerably higher than last year. The best results were achieved by teams working according to the collective contract method: they managed 70 quintals of wheat and barley per hectare. Including corn, the republic's gross crop of grain amounts to more than 1.4 million tons. (0500 GMT)

# 17 December

The Cherepovets Ammofos production association will be sending more than 20,000 tons of fertilizer above plan by December to non-Chernozem Zone farms. (0700 GMT)

#### 18 December

Approximately 3 million quintals of seeds have been brought to full condition for sowing in Kurgan Oblast. This is approximately two-thirds of the total ready for the spring. (1930 GMT)

Chimkent Oblast farms have received 800 hectares of irrigated 1 and from 1 and improvers for the cultivation of corn. This year alone over 2,300 hectares of new 1 and have been prepared for corn-growing. (2100 GMT)

# 19 December

No relevant items.

#### 20 December

Bread farmers in Altay Kray have put more than 90 percent of wheat, barley and oats in good condition. Particularly high quality spring barley, bred by specialists in Omsk, Tselinograd, Novosibirsk and the Altay, will be spread on greater areas than before. (1200 GMT)

In Uzbekistan 5.9 million tons of cotton have been delivered to procurement points in the republic despite difficult weather conditions. (1430 GMT)

#### 24-26 Dec

LD270025 [Editorial Report] The following is a compilation of reports on agricultural developments in the USSR carried by Moscow Domestic Service in Russian on 24-26 December. Times of broadcasts are given in parentheses at the end of each item.

#### 24 December

Farmers of Talas Oblast are the first in Kirgiziya to have prepared seeds of grain and cereal crops for spring. In the republic 47,000 tons of seeds of wheat, barley, oats and pulse crops have been prepared, which is more than 80 percent of the plan. (0200 GMT)

In Omsk Oblast snow retention has been carried out on 500,000 hectares. Spring wheat will be sown in the spring. (0900 GMT)

# 26 December

After snowfalls, Kurgan Oblast mechanizers have started winter accumulation of moisture on the fields. Specialists believe that this important agrotechnical method, in the harsh conditions of Zauralye, produces an additional yield per hectare of up to two three [as printed] quintals of grain. Snow retention is to be carried out in the oblast on 1.5 million hectares. (0304 GMT)

In Ryazan Oblast 90 percent of cereal seed has been brought to sowing condition. (0900 GMT)

#### 27 Dec-2 Jan

LDO30437 [Editorial Report] The following is a compilation of reports on agricultural developments in the USSR carried by Moscow Domestic Service in Russian from 27 December 1983 through 2 January 1984. Times of broadcasts are given in parentheses at the end of each item.

#### 27 December

This year, farms in the subtropical zone of Azerbaijan, the main vegetable-growing zone in the republic, have produced some 500,000 metric tons of vegetables, considerably more than last year. Two to three harvests were reaped from a quarter of the plantations. (1630 GMT)

#### 30 December

Our Altay Kray correspondent reports that, studying the documents of the December plenum of the CPSU Central Committee, the agricultural workers of the kray are working out a set of measures for obtaining a large harvest in 1984. One of their most important present concerns is snow retention. That work is well mechanized. It is planned to carry out snow retention during the winter months on a total area of 3.5 million hectares. (1630 GMT)

# 2 January

A new strain of Siberian winter wheat, (Albedum-12) has been produced at the Institute of Cytology and Genetics of the Siberian Department of the USSR Academy of Sciences. It is frost-resistant and matures nearly a month earlier than strains most widely used in Siberia. Hybridization and irradiation techniques were used in developing it. Samples have gone to Moscow, Leningrad, Odessa, and Kharkov. (1200 GMT)

Water from Great Beshkent Canal has reached the Tajik state farm Beshkent 4. The Beshkent valley has received over 11,000 hectares of fertile land from the land improvers in recent years. (1200 GMT)

A large water complex is being built in Imishlinskiy Rayon, Azerbaijan. The Araks River will feed a major irrigation system, watering 70,000 hectares of grain, cotton, and fodder crops. (1200 GMT)

# 3 Jan

LD050550 [Editorial Report] The following is a compilation of reports on agricultural developments in the USSR carried by Moscow Domestic Service in Russian on 3 January. Times of broadcasts are given in parentheses at the end of each item.

The cotton crop in Uzbekistan reached 5,931,000 tons in 1983, despite a 3-month drought in the spring, scorching summer temperatures, dust storms, and winds of gale force. More than 3 million people battled to save the crop, and the harvest was only slightly below plan. Uzbekistan is the Soviet Union's leading cotton producer. (2300 GMT)

There is still dry sunny weather in the steppes and southern coast of Crimea. Taking advantage of the weather, planes are being used to feed winter crops. In January alone around 100,000 hectares will be spread with mineral fertilizer by air. (1630 GMT)

Vegetable growers in the sub-tropical regions of Azerbaijan are sowing the first crops of the year. Specialized farms began sowing onions on open ground today. In all 3,000 metric tons are to be sown. (1630 GMT)

The Chinaz granulated fodder plant has been commissioned in Tashkent Oblast. It will produce 37,000 metric tons of fodder annually from waste from cotton-seed processing. (1630 GMT)

# 15-17 Jan

LD180204 [Editorial Report] The following is a compilation of reports on agricultural developments in the USSR carried by Moscow Domestic Service in Russian on 15-18 January. Times of broadcast are given in parentheses at the end of each item.

# 15 January

In Omsk Oblast snow retention has been carried out on 1.5 million hectares to date, which is over half the planned area. (0001 GMT)

Orenburg machine operators have begun snow retention work on the second million hectares. (0300 GMT)

In Orenburg Oblast the farms plan to complete the overhaul of tilling and snow equipment soon. For the whole oblast 85 percent of the tractors are ready for work; in many rayons the overhaul of cultivators and grain seed drills has already been completed. (2104 GMT)

#### 16 January

In Omsk Oblast more than 80 percent of all seeds have been brought into prime condition for sowing. Preference is given in the region to new, highly-productive Siberian-bred strains which performed well in the dry conditions of last summer--e.g., Omskaya-9, Almaz, Irtyshanka-10 spring wheat. (0304 GMT)

Report from Uzbekistan: 216,000 tons of high-condition cotton seeds have to be prepared for the coming sowing campaign in the republic. As our correspondent has been told in the Ministry of the Cotton Cleaning Industry of Uzbekistan, this plan task has been fulfilled by over two-thirds. The pace is on the whole higher than last year; together with this, the situation with seed treatment caused concern. This work is conducted slowly by cotton works of Surkhandarya and Kashkadarya Oblasts. (0800 GMT)

# 17 January

A high-yield variety of barley has been bred at the Lithuanian Agriculture Institute. Batches of seeds of it have been sent to seed-breeding farms in the northwest of the country. It has a yield of up to 60 quintals per hectare. (1200 GMT)

#### 18-21 Jan

LD230825 [Editorial Report] The following is a compilation of reports on agricultural developments in the USSR carried by Moscow Domestic Service in Russian on 18-21 January. Times of broadcasts are given in parentheses at the end of each item.

# 18 January

Specialized Ukrainian works today have completed the processing of sugar beets, producing almost 1 million tons of output more than last year. (1100 GMT)

Mari ASSR: All soil cultivating and sowing equipment is ready for spring work. (2204 GMT)

Kirgiz grain crop seed preparation has been completed; almost 680,000 quintals has been checked, which is more than required; 94 percent is of first and second class. (2204 GMT)

# 19 January

Snow retention has been carried out on 1 million hectares in Altay Kray. (1630 GMT)

# 20 January

Uzbekistan: Cotton fields have received more than 12 million tons of fertilizer, half of which were spread along with the ploughing. Half of the planned area has been desalinated by water treatment. (0500 GMT)

Altay farms have fully completed seed preparations. They have 800,000 tons, all carefully cleaned and graded. (0800 GMT)

The formation of mechanized teams for the growing of sugar beets has been completed in Kharkov Oblast. This year industrial methods are to be used on the entire sugar beet area in the oblast, 114,000 hectares. The Ukrainian Research Institute of Agricultural Engineering have handed over to farmers modernized seed drills, which plant their seed accurately, and electronic devices for the thinning of shoots, as well as six-row harvesting complexes and other highly productive equipment. (1630 GMT)

# 21 January

Farms in Mordovia have completed the repair of tilling and sowing machinery. Also about 14,000 tractors are ready. Over 75 percent of seed has been brought to high sowing standard. (0500 GMT)

Farms of the Ukraine are preparing to enlarge the areas sown to grain maize by 30 percent this spring in order to increase its production in every way.

The republic's Deputy Agriculture Minister Aleksey Grigoriyevich Denisenko comments on this report at our request: It is intended to increase yields as well as sown area in order to double the proportion of maize in the total grain

harvest. It is intended to raise the total harvest of maize grain to at least 9 million tons. Corn for grain will be cultivated by industrial methods on an area of 1.8 million hectares. All the necessary equipment is now being made ready, but in the Crimean and in Kherson Oblast this work is not being done quickly enough.

With the planned increase in harvest, a shortage of harvesting equipment is being felt. Kherson combine builders are being asked to produce more corn harvesters. (1200 GMT)

The Ukrainian plant-growing, breeding and genetics scientific research institute imeni Yuliyeva has completed delivery of high-standard spring crop seeds for farms in the non-Chernozem Zone RSFSR, South Urals, Volga Region, Western Siberia and Kazakhstan. The hard wheat Kharkovskaya-46 is particularly popular among farmers, as it is more resistant to laying and drought and less liable to shed grain. It has a higher albumen and gluten content. Farmers have also received supplies of high yield wheat seeds Kharkovskaya-2 and Kharkovskaya-6. (1850 GMT)

# 25 Jan

LD300436 [Editorial Report] The following is a compilation of reports on agricultural developments in the USSR carried by Moscow Domestic Service in Russian on 25 January. Times of broadcasts are given in parentheses at the end of each item.

# 25 January

Buryatia: Snow retention is to be carried out on an area of over 50,000 ha by spring. (1630 GMT)

Belorussia: 98 percent of the seed prepared for grain and pulse crop sowing is of first class; all the seed is of the best locally acclimatized varieties. The republic has over 300 enterprises for preparing seed. (1630 GMT)

#### 1-5 Feb

LD060140 [Editorial Report] The following is a compilation of reports on agricultural developments in the USSR carried by Moscow Domestic Service in Russian on 1-5 February. Times of broadcasts are given in parentheses at the end of each item.

# 1 February

Kuybyshev Oblast kolkhozes and sovkhozes have prepared more than 90 percent of seeds. Almost two-thirds of the seeds are of the first class standard. (1630 GMT)

# 5 February

Snow retention work in Kurgan Oblast has been carried out on an area of 500,000 hectares; 1.5 million hectares to be done. (2330 GMT)

# 6-15 Feb

LD160303 [Editorial Report] The following is a compilation of reports on agricultural developments in the USSR carried by Moscow Domestic Service in Russian on 6-15 February. Times of broadcasts are given in parentheses at the end of each item.

# 9 February

Kirghiz farmers have despatched over 4,000 tons of corn seed to the RSFSR and Turkmenia. (0304 GMT)

# 12 February

The Krasnodar All-Union Research Institute for Oil Crops is dispatching sunflower seeds to Kuban, Stavropol Don, Ukraine, and eastern farms. (1400 GMT)

# 14 February

In Altay Kray so far nearly 90 percent of all tractors have been repaired, along with all attachment tools and other machinery. This spring over 4 million hectares will be sown to grain. More than 95 percent of the wheat fields will be sown to strong and hard wheat. Over 4.5 million hectares of land was ploughed in the autumn. Over 300,000 hectares were sown under winter rye, which is now covered with snow. Altay Kray has 90,000 machine operators. (0200 GMT)

# 16-19 Feb

LD200250 [Editorial Report] The following is a compilation of reports on agricultural developments in the USSR carried by Moscow Domestic Service in Russian on 16-19 February. Times of broadcasts are given in parentheses at the end of each item.

# 16 February

Omsk Oblast: Farmers are preparing 500,000 tons of seeds for spring sowing. To date, almost 80 percent of them have been prepared to optimal sowing standards. Preference is being given to new high-yield local varieties, which will occupy more than 1.5 million hectares. (1630 GMT)

Long-awaited plentiful snowfall which has taken place in the southwest of the central Chernozem Zone has made it possible to begin mass snow retention work in the fields. In Belgorod Oblast the work is being carried out on about 1 million hectares. (1630 GMT)

# 17 February

Altay grain procurements points have received 28,000 tons of first and second class corn seeds. There will be 660,000 hectares of corn grown there this year. (0900 GMT)

# 19 February

Sowing has already started in Georgia. While an exceptionally abundant snow-fall is still in progress in northern areas of the republic, oats are being sown in the southern areas. In the republic all tractors and tilling and sowing equipment are ready to be taken out onto the fields. Sowing material has been completely prepared. (2104 GMT)

#### 20-24 Feb

LD250719 [Editorial Report] The following is a compilation of reports on agricultural developments in the USSR carried by Moscow Domestic Service in Russian on 20-24 February. Times of broadcasts are given in parentheses at the end of each item.

# 20 February

The agricultural workers of Kazakhstan completed ridging snow banks today over the entire area of fallow land which for the first time has been brought up to scientifically-based standards--5.1 million hectares. At the same time the complex preparation of it has been completed for the current year's harvest. In one season it has been extended by 1 million hectares. A foundation has now been created in the republic for the complete assimilation of efficient grain-and-fallow crop rotations. (1300 GMT)

# 21 February

In Kuybyshev Oblast the pace of repairing agricultural machinery has been stepped up: 20,000 tractors and over 7,000 trucks have been made ready, which is 80 percent of the total. (0104 GMT)

# 23 February

In the Kuban, in Black Sea areas, machine operators are sowing early spring crops, taking advantage of the warm weather. For a number of reasons the volume of field work this year will be greater than in preceding years; therefore, there will be a greater need for machinery, fuel, and the like. Much work still needs to be done in repairs to machinery. About 300,000 tractors alone need to be serviced, plus hundreds of thousands of seed drills. Rural machine operators of Azerbaijan, Minsk, Voroshilovgrad Kustanay, and Statov oblasts have already completed repairs to sowing equipment. Most farms in Central Black Soil and North Caucasus zones, as well as in other RSFSR areas, have also completed the work, as have the Ukraine and Belorussia. But in most southern republics--Uzbekistan, Tadzhikistan, Turkmenistan--many repairs still have to be done. In Turgay and Taldy-Kurgan oblasts of Kazakhstan repairs to K-700 tractors are going slowly. Collectives at individual associations such as Altayselmash's Avtodizel are slow in dispatching badly needed spare parts. Some blame lies with railway workers; many machines are awaiting dispatch at the Karhkov and other tractor works. (1900 GMT)

# 24 February

The farmers of Stavropol Kray will need more than the usual quantities of seeds for the spring sowing, notes PRAVDA correspondent Pankratov. The autumn drought and the unfavorable weather during the winter, as the journalist explains, had had a negative effect on the condition of the winter crops. In places it will be necessary to sow the fields again. The specialists have already pinpointed such fields and specified the additional quantities of seed needed reported Volodin, secretary of the CPSU Kraykom, in an interview with the newspaper. The bread-growers of Stavropol Kray will receive grain for seed from Saratov, Kuybyshev, and Volgograd oblasts." (0060 GMT)

Seed preparation has been completed in Penza Oblast. (0100 GMT)

Several steppe rayons in the Crimea have started sowing early spring crops, introducing mineral fertilizers at the same time. Many farms intend to sow grain and fodder crops in the short February thaw periods. (1200 GMT)

Farms in Armenia have begun preparing the soil for vegetable planting. (1200 GMT)

Having completed snow retention throughout the 30,000,000 ha Kazakh farmers have commenced a second snow-ridging. (1200 GMT)

More and more machinery, fuel and fertilizer is reaching the Altay by rail from many parts of the country. Harvesters, reapers, and mowers are also arriving. Whereas most factories are sticking to their delivery schedules, the RSFSR Goskomselkhozetkhnika for the third year running is planning the supply of wagons for Niva harvesters to collect crushed straw and up to now not one has been received. (1200 GMT)

Some 50,000 tons more fertilizer than a year ago has been applied on farms in country. Snow retention is underway in steppe regions, oats, peas, lucerne and green peas are being sown in the Crimea. Grain crops seeds have been procured nationwide, but not everywhere is the picture favorable. In Siberia, because of poor weather, farms were not able to grow their own seeds in the autumn, so they had to get them from state resources. Moreover, there have been delays in their cultivation. (1200 GMT)

CSO: 1824/256

# LIVESTOCK FEED PROCUREMENT

# CULTIVATION OF PULSE CROPS FOR FEED PROTEIN IN BELORUSSIA

Minsk SEL'SKAYA GAZETA in Russian 7 Dec 83 p 2

Article by L. Kukresh, andidate of gricultural ciences and worker at the Belorussian Scientific-Research Institute of Farming: "In Order For a Field To Be More Fruitful"

Text/ One of the chief problems concerned with the development of animal husbandry throughout the republic is that of raising the protein value of the feed. Here a priority task is that of balancing the concentrated feeds in terms of protein, with the deficit in such feed amounting to roughly 80,000 tons. Indeed, full-value feed rations alone, in terms of both the energy indicator and their biochemical composition, ensure high milk yield and weight increases for the animals.

Pulse crops, which are capable of accumulating 50 percent protein in the grain, constitute the most economically profitable source of feed protein for use in raising the nutritional value of grain forage. Under the soil-climatic conditions found in Belorussia, yellow fodder lupine, peas and spring vetch are included among the pulse crops employed on a more extensive scale. A correct combination of the sowing areas for these crops, while taking into account their biology and the ecological conditions found in the zone of cultivation, is making it possible to obtain a higher yield of protein per hectare of feed crop rotation plan. However the productivity of the republic's pulse crops is still low and not in keeping with the animal husbandry requirements. A number of problems requiring solutions are making it difficult to achieve a sharp increase in their cropping power.

Although mankind has concerned itself for thousands of years with the breeding of grain crops, its interest in breeding improvements in feed lupine is only 50 years old. Naturally, it is difficult to change this crop radically or adapt it to the needs of man. Thus lupine has retained some rather stable properties from its wild forbears, properties which are not compatible with intensive farming. In particular, it responds adversely to calcium being applied to the soil. For example, according to data supplied by the Brest Oblast Experimental Agricultural Station, an application of even three fourths of a dosage of lime lowers the yield by 2 quintals per hectare. Lupine does not respond to fertilizer applications if the arable layer contains more than 10 milligrams per 100 grams of soil of the mobile forms of phosphorus and

potassium. Compared to other pulse crops, lupine suffers more from soil weediness, especially during the rosette phase. It is also strongly affected by diseases.

A radical solution for the problem of lupine cultivation is possible only on the basis of breeding basically new varieties which are not marked by these shortcomings. Some successes have already been achieved in this regard. Thus the Narochauskiy variety, which is more resistant to fusarial wilt than other regionalized varieties, has been developed at the Belorussian Scientific Research Institute of Farming. In 1982, at the Pukhovichskiy Strain Testing Station, it surpassed the Akademicheskiy-I variety by more than 9 quintals per hectare. However this variety is very unstable in the face of virus proliferation. Professor G. Taranukho at the Belorussian Agricultural Academy is carrying out effective work in connection with improving the varieties of lupine. The specimens created by him promise to be highly productive varieties of yellow fodder lupine. Reassuring results have been obtained from the cultivation of narrow-leaved lupine.

The breeding of highly productive intensive type varieties of lupine will have a bearing on the future with regard to expanding the sowing areas for this crop, which at the present time have stabilized at the level of approximately 100,000 hectares. In short, the problem rests with the creation of new varieties.

The role being played by peas in the republic is increasing with each passing year. Compared to 10 years ago when this crop occupied less than 1,000 hectares, in 1983 -- more than 80,000 hectares. This crop, under the conditions found in our republic, has turned out to be more intensive than lupine and it is capable of a high cropping power when the correct agricultural practices are employed. Thus, in 1982, at the Vol'no-Chernikhovo Experimental Base in Baranovichskiy Rayon, the cropping power for peas on an area of 40 hectares was 30.7 quintals per hectare. This year Grodno Oblast obtained approximately 20 quintals per hectare from an area of more than 12,000 hectares. The growing of spring vetch in the republic is characterized by a similar cropping power.

The results of scientific studies and the experience of leading farms reveal that it is fully realistic to assign the task of obtaining 25 quintals of peas and spring vetch per hectare throughout the republic. At the same time, the cultivation of these crops is beset by serious problems. Under weedy soil conditions, extreme importance is attached to carrying out chemical weed control operations on the plantings. And the required herbicides -- simasine and prometrine -- are in short supply in the republic. Considerable difficulties are being encountered in applying them. The available ZhSK-4A harvesters perform well following reequipping, the plan for which we developed with the assistance of workers from TsNIIMESKh /Central Scientific Research Institute of Rural Mechanization and Electrification of the Non-Black Earth Belt of the USSR/. Unfortunately, proper attention is not always being given to this most important measure at the kolkhozes and sovkhozes. A method for the direct combining of peas and vetch, with pre-harvesting defoliation, has also been developed. However, this method is also being disseminated in a very weak manner.

A serious shortcoming is the absence of breeding work being carried out in the republic with peas and vetch and such work is badly needed. The fact of the matter is that the regionalized varieties of these crops, especially vetch, are characterized by long growing seasons. As a rule, the harvesting of these crops is carried out in August or even in September, under conditions involving lower temperatures, shorter days and autumn rainfall. And as a result, great losses in the crops already grown. Thus breeding for early ripening is a principal trend to be followed in carrying out breeding work with peas and spring vetch.

When planning the sowing areas and the placement of the pulse crops, consideration must be given to the manner in which they respond to the mechanical structure of the soil. Both science and practical experience have established the fact that lupine should be sown on sandy soils and sandy loam soils strewn with loose rock, white peas and spring vetch furnish the best yields on coherent soils. Since the soils of the first group occupy one third in the republic and that of the second group -- two thirds, roughly the same ratio should be followed for the pulse crops in their sowing area structure. In the process, it should be borne in mind that fodder peas (maple peas) endure light-toctured soils better than sown peas and spring vetch.

Over the past few years, we have introduced fodder beans into production operations. A number of farms have mastered very well the technology for cultivating this crop and are obtaining high yields. However an expansion in its sowing areas is still being delayed by a sharp fluctuation in its cropping power from year to year, caused by the crop's high requirements for fertile soil and moisture, especially during the initial period of development. Its cropping power is lowered to a severe degree if only a small amount of precipitation falls during the month of May.

The role played by pulse crops in farming is not just limited to the high protein content in its grain. It is a natural and inexhaustible factory for nitrogen, biological nitrogen which is assimilated by plants almost completely. Pulse crops possess the ability to enrich the arable soil layer by means of mobile forms of phosphorus, raising it from lower layers and converting it into a state that is accessible to other plants.

The solving of the vital problems concerned with the republic's pulse crop fields and the extensive introduction into production operations of scientific achievements and leading practice, involving the use of an entire arsenal of modern means for the use of chemical processes and agricultural mechanization, represents an important contribution towards solving one of the most important tasks of the Food Program -- the creation of a firm feed base for animal husbandry.

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# LIVESTOCK FEED PROCUREMENT

## EFFECTIVE USE OF RESOURCES IN MIXED FEED PRODUCTION

Moscow MUKOMOL'NO-ELEVATORNAYA I KOMBIKORMOVAYA PROMYSHLENNOST' in Russian No 12, Dec 83 pp 14-15

Article by A. Chemodurov, andidate of conomic ciences and director of the All-Union Scientific Research Institute of the Mixed Feed Industry: "Methods for the Efficient Utilization of Material Resources in the Mixed Feed Industry"

/Text/ Under conditions involving the intensification and further development of animal husbandry, improvements in its efficiency are determined to a decisive degree by the organization of a reliable feed base. In addition to improving the structure of the forage crop sowing areas and raising their cropping power, one very important task is that concerned with the efficient use of feed resources and particularly forage grain. The mixed feed industry, which is developing at a rapid pace, must solve this complicated and vital problem.

The mixed feed industry does not create additional feed resources and yet it promotes to a considerable degree the efficient and more effective use of such resources, thus making it possible to obtain more animal husbandry products with fewer material expenditures per unit of output. Thus an analysis of the economic activities of specialized swine-raising enterprises in the central chernozem economic region of the RSFSR has shown that the feeding of full-value mixed feed to the animals makes it possible not only to lower the feed expenditures per unit of live weight increase in the swine and to raise the coefficient of utilization of nutrients, but in addition it also shortens the fattening periods and lowers production costs. Moreover, an increase in the proportion of mixed feed in the overall quantity of concentrates from 45 to 80 percent is promoting an increase of 70.8 percent in swine productivity, a reduction of 29.5 percent in feed consumption per quintal of live weight increase and also a reduction of 63.2 percent in the production cost per quintal of weight increase.

The effectiveness of use of resources when feeding mixed feeds to animals is also borne out by the results of an analysis carried out on the basis of actual farm materials concerned with the maturing and fattening of young cattle stock. A grouping of enterprises in the central chernozem economic region according to the proportion of mixed feeds in concentrated feed expenditures for beef production has shown that the productivity of the cattle increased by 65.6 percent as the proportion of mixed feeds increased from 16.3 to 38.5

percent and that feed consumption per quintal of live weight increase and the production cost per quintal of weight increase decreased respectively by 25.7 and 42.7 percent.

However, the level achieved in the production of mixed feeds and their assortment are still not satisfying completely the increasing requirements of animal husbandry. Of the overall consumption of concentrated feeds, the proportion of mixed feeds is slightly more than 50 percent, with the remaining portion being concentrates, mainly forage grain; these are fed to the animals on a non-ration basis in the form of simple feed mixtures and milled grain and this leads to a considerable over-expenditure of feed and to a reduction in the economic effectiveness of animal husbandry production.

A restraining factor with regard to increasing the production of mixed feeds is the lag that has developed with regard to satisfying the increasing requirements of the mixed feed industry for the production of high protein raw materials and biologically active substances. Hence a further increase in the volumes and improvements in the quality of the mixed feeds are inseparably associated with expanding and strengthening the raw material base, mainly through the efficient use of non-grain raw materials, especially of a protein type and reducing grain consumption for the production of mixed feeds. have shown that the principal trends in solving this problem include more complete use of traditional non-grain raw materials for the production of mixed feeds, mastering the production and use in the mixed feed industry of new feed resources, development of the hydrolytic industry, expanding the production and increasing the deliveries to the mixed feed enterprises of synthetic types of raw materials, expanding the production of protein-vitamin additives and, based upon them, increasing the production of full-value mixed feeds at inter-farm mixed feed plants.

Thus this particular problem extends beyond the framework of one branch, since the mixed feed industry, in terms of raw material deliveries, is associated with many other branches of the national economy (more than 20 ministries and departments) and its solution is dependent upon the country's agroindustrial complex as a whole.

Thus, in raising the quality of the products of the mixed feed industry, importance is attached to increasing the production and use of pulse crop grain and grass meal in the form of mixed feeds. During the 26th CPSU Congress, emphasis was placed upon the need for expanding the sowing areas for forage crops, mainly peas but also soybeans. According to computations by VNIIKP /All-Union Scientific Research Institute of the Mixed Feed Industry/, the proportion of pulse crop grain in the structure of mixed feed raw materials must be increased to 7-9 percent.

One important reserve for lowering grain expenditures for mixed feed production is that of increasing the use of feed resources produced from the secondary resources of enterprises of the processing industry. During this modern stage in economic development, this problem is viewed as being a very urgent one. In the decree of the CPSU Central Committee and the USSR Council of Ministers entitled "Improving Economic Operations and the Efficient Use of Raw Material, Fuel-Energy and Other Material Resources," emphasis is placed

upon the following: "In the programs for solving the more important scientifictechnical problems, special tasks are required for ensuring the efficient use of fuel, energy, raw materials and other materials, while taking into account the all-round processing and maximum utilization of secondary resources."

The principal portion of the secondary resources, from which the components for producing mixed feeds are obtained, is formed during the course of processing the agricultural raw materials at sugar, starch-syrup, brewing, fat and oil, meat and dairy and poultry processing enterprises.

Studies carried out at VNIIKP reveal that the use of food products obtained from food production operations, as raw materials in the mixed feed industry, ensures a high degree of economic effectiveness. Thus, compared to hydrolytic nutrient yeasts, the economic effect realized from the production and use of 1 quintal of nutrient yeast obtained from grain-potato malt residue is 375.92 rubles, enriched with a protein concentrate -- 385.23 rubles and nutrient yeasts obtained from the secondary resources of brewing production operations -- 211.30 rubles.

The economic effect realized from the production and use of 1 ton of dry corn feed, compared to wheat grain, is 17.17 rubles. A high level of economic effectiveness can be realized from the use also of other feed resources obtained from the production of food goods. However, it is unfortunate that many food products are not being processed or used in the production of mixed feeds of they are being used in only negligible amounts. Up until recently, very little use was being made of the experience accumulated in organizing the production of dry feed resources from such valuable by-products as grain-potato malt residue, brewing waste, potato vegetable pulp, pulp residue, whey, kaniga and others.

In addition, some types of raw materials possess poor friability and low stability during storage when in loose form. Such raw materials should ideally be granulated.

Granulated bran and meal possess good friability and retain their properties to a better degree. The stability of carotene is 10-15 percent higher in granulated grass meal and its caking and spontaneous combustion are eliminated almost entirely. Pulp residue granules, especially those 13 mm in diameter and up to 1.5 in length process very well and can be stored in silos; their use makes possible the mechanization of intra-warehouse operations.

In solving the problem concerned with the efficient use of grain, in connection with the production of mixed feeds and BVD /protein vitamin additives/, and increasing the production of protein types of raw materials, both at the present time and in the future, special importance is being attached to the microbiological industry where certain measures must be carried out aimed at accelerating the development of production operations based upon microbiological synthesis. Here considerable increases must take place in the production of marketable feed microbiological protein and lysine, antibiotics for feed purposes, feed vitamins and premixes.

Science and practical experience have proven the possibility of achieving more efficient use of grain and economizing in the use of protein raw

materials in the production of mixed feeds through the introduction of lysine preparations. Meanwhile, according to data supplied by VNIIKP, the plans call for the lysine requirements for 1985 to be satisfied by only 30 percent. Ideally, in addition to increasing the production of lysine at enterprises of the microbiological industry, the production of synthetic lysine should be organized within the Minkhimprom /Ministry of the Chemical Industry/ system, using a technology developed by the State Institute for Applied Chemistry.

In the interest of finding additional sources of microelements for the production of premixes, VNIIKP conducted studies aimed at determining the chemical composition and the toxicological and biological status of ore materials from various deposits containing microelements and the possible volumes for delivering such materials to the mixed feed industry.

At the present time, the animal husbandry requirements for manganese salts, for use in the enrichment of mixed feeds, are not being satisfied completely. In addition, the enterprises of Minkhimprom are for the most part supplying manganese in the form of a sulphate salt, which is a non-technological product for the mixed feed industry. VNIIKP, jointly with other scientific-research institutes and based upon comprehensive studies, has established the fact that the salts of microelements -- basic manganese carbonate, manganese dioxide and activated pyrolusite -- should ideally be used in animal husbandry as additional sources for manganese.

Some of the vitamin preparations used also do not meet the requirements of the mixed feed industry: they possess poor friability and a high hygroscopicity and they break down under unfavorable storage conditions. In accordance with the studies carried out by VNIIKP, technical requirements have been developed for the feed forms of the vitamins  $D_3$ ,  $B_2$ , A, B and E (kormovit E and granovit E), as called for by the Vitaminy Association. These requirements will be taken into account when preparing the normative-technical documentation for the mentioned preparations.

Despite the relatively low proportion of fuel-energy resources compared to the overall total amount of expenditures for the production of mixed feed products, the problem of their efficient use, especially at the present time, is an urgent one. The increase in the production of complex (in terms of their components) mixed feeds and the growth in the proportion of mixed feeds for poultry and young agricultural animals, granulated mixed feeds and BVD are associated with additional expenditures of energy resources. Over the past 10 years, the expenditures of electric power per ton of product have increased by 40 percent and boiler-furnace fuel -- by 88 percent.

The principal means for promoting the efficient use of fuel-energy resources is a scientifically sound system of norms for their use, a system which covers all fuel and thermal energy expenditures for the principal and auxiliary production-operational requirements at all levels of economic activity.

The Basic Directions for the Economic and Social Development of the USSR for the 1981-1985 Period and for the Period Up To 1990 stipulate that almost one half of the overall savings in conventional fuel must be obtained by reducing the consumption norms. However, the mixed feed industry lacks a uniform normative base for determining the heat and power expenditures for the production of goods. Thus the Ukrainian Branch of VNIIKP conducted studies

and developed methodical materials for controlling the system of expenditure norms for fuel and thermal power, required for producing the products of the mixed feed industry for all levels of administration.

During the course of the studies, a production check was carried out on the method developed for establishing the expenditure norms for fuel and thermal power required for producing the products of the mixed feed industry, for a number of union republic ministries and their subordinate enterprises. It was established that this method makes it possible to determine the scientifically sound expenditure norms for fuel and power resources, using data on the production structure, the operating parameters of the equipment, the heated spaces of production buildings and facilities and on the climatic conditions. The branch methodical instructions for establishing the expenditure norms for fuel and power resources were approved by the USSR Minzag /Ministry of Procurements. In addition, a plan for the branch expenditure norms for fuel and thermal power required for the production of mixed feed industry products was prepared for the USSR Ministry of Procurements, which defines the planned expenditure norms for the mentioned resources for the 1982-1985 period.

The introduction of a system of scientifically sound expenditure norms for fuel and power resources will make it possible to reduce power consumption and to optimize the requirements for these resources.

Based upon theoretical and experimental studies carried out over a period of a number of years at the Voronezh Technological Institute, an instruction has been developed and approved by the USSR Minzag for establishing the expenditure norms for electric power in the mixed feed industry. The method for establishing the norms, as set forth in the instruction, is based upon a quantitative consideration of a number of technological and technical-economic factors associated with the production of mixed feeds.

Under the methodical direction of VNIIKP and NIIPiN /Scientific Research Institute of Planning and Standards/ of USSR Gosplan, this instruction was introduced on an experimental basis and this confirmed the feasibility of its use under production conditions and the dynamic nature and efficiency of the norm setting method.

The mentioned measures made it possible during the first 6 months of 1983, at mixed feed enterprises of the USSR Ministry of Procurements, to strengthen the regime for achieving economies in the use of electric power, to make better use of the raw materials and to reduce the losses in these materials. The tasks concerned with the efficient use of by-products and the waste products of groat production, for the purpose of producing feed mixtures, were fulfilled completely: 458,800 tons of feed mixtures were produced during the period mentioned.

However, analysis reveals that the mixed feed industry is still troubled by unresolved problems associated with the efficient use of material resources. Thus an important scientific-technical problem in the future will be that of developing and introducing the principal trends to be followed for achieving economies in the use of raw material, fuel-power and other resources.

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## LIVESTOCK

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## RSFSR LIVESTOCK PROCUREMENT ORGANIZATION EXAMINED

Moscow ZHIVOTNOVODSTVO in Russian No 1, Jan 84 pp 4-6

Article by V.I. Blokhin, deputy chief of the Main Administration for Animal Husbandry of the RSFSR Ministry of Agriculture: "Raising the Quality and Improving the Organization of Product Procurements"

Text/ The year 1983 was to a certain degree a decisive one for the Russian Federation. The farm workers were confronted with the task of not only fulfilling the current year's plans for the sale of milk, meat and other products to the state, but also repaying the state, to the maximum possible degree, for the debt which built up over the past 2 years of the five-year plan.

During the first three quarters of 1983, the republic's agricultural workers fulfilled their plans and socialist obligations for selling livestock, poultry, milk and eggs to the state.

The growth in the production and procurements of animal husbandry products was achieved mainly as a result of having raised the productivity of the animals while simultaneously increasing their numbers.

Over a period of 10 months the milk yield per cow amounted to 2,070 kilograms, reflecting an increase of 143 kilograms compared to the same period for last year. The average weight for one head of cattle delivered for processing to enterprises of the meat industry was 366 kilograms, an increase of 15 kilograms compared to 1982.

Swine raising and poultry production are developing in a successful manner. Swine procurements amounted to 25 percent of the overall volume of livestock procured, an increase of 12 percent compared to last year and for poultry procurements the figures were 14 and 9 percent respectively.

A great amount of work is being carried out throughout the republic in connection with improving the quality of milk. Towards this end, over the past few years 46,000 facilities at kolkhozes and sovkhozes have been modernized and equipped for the acceptance, purification, cooling and storage of milk; there are 362,000 refrigeration units, 265,000 cooling tanks, 4,000 milk lines and 34,000 laboratories for determining the quality of milk are in operation

and 36,500 kilometers of intra-farm hard surface roads have been placed in operation, thus ensuring continuous access to many farms.

Special attention is being given to improving the skills of dairy farm workers, to studying and introducing leading production technologies into operations and to carrying out the requirements of the state standard. At the present time, more than half of the milkmaids have earned the title of "Master of Animal Husbandry" last or 2d class.

At a majority of the farms an effective socialist competition has been launched for improving the quality of milk and material incentives have been introduced for the sale of high quality milk to the state.

In 1983 the agricultural organs in all oblasts, krays and autonomous republics, jointly with dairy industry associations, inspectorates for the procurements and quality of agricultural products and sanitary-epidemiological stations carried out comprehensive checks on the observance of veterinary and sanitary conditions on the dairy farms, complexes and milk processing enterprises and measures were undertaken aimed at eliminating the shortcomings.

As a result of implementation of the mentioned measures, 75 percent of the overall volume of milk sold by the republic's farms to the state was of 1st class quality, including milk cooled to  $10^{\circ}$  Centigrade -- 44 percent of the overall volume. During 9 months of 1983 alone, the additional payments made to kolkhozes and sovkhozes throughout the RSFSR as a whole, for having supplied improved quality milk, amounted to 401.7 million rubles. Improvements in the quality of mi'k being obtained by means of state procurements make it possible to produce high quality products from it. Thus, over a period of 9 months the enterprises of the dairy industry of RSFSR Minmyasomolprom produced as high quality products 99.4 percent of their cream butter, 83.1 percent of the pot butter and 72.4 percent of the rennet cheeses.

The greatest successes in raising the quality of milk were achieved on farms in Leningrad, Murmansk, Moscow, Lipetsk and Sakhalin oblasts and in Krasnodar Kray, where during the 9 month period 90-93 percent of the milk sold to the state was of 1st class quality.

An important condition for raising the quality of the milk -- carrying out the party and government decisions with regard to developing and strengthening in every possible way direct contacts between industrial enterprises on the one hand and kollhozes and sovkhozes on the other, converting over to the system wherein the products are accepted directly on the farms and ensuring that they are delivered by means of specialized transport equipment furnished by the procurement organizations. The RSFSR Ministry of Agriculture, the local agricultural organs and the kolkhozes and sovkhozes must carry out a definite amount of work in creating the conditions required for the above.

During 9 months in 1983, 5,851,000 tons of milk, or 1,363,000 more tons than for the same period the previous year, were accepted directly at the kolkhozes and sovkhozes and shipped on a centralized basis. Milk is being accepted at the site on 4,467 farms, or on 861 more farms than in 1982. In addition, 1,248,000 tons of milk were shipped on a centralized basis; its quality was determined at the dairy plants.

This work was carried out most actively in Vologda, Leningrad, Ryazan, Smolensk, Belgorod and Tyumen oblasts and in Krasnodar Kray, where more than 30 percent of all of the milk procured is being accepted directly on the farms and in Khabarovsk and Stavropol krays -- 70 and 75 percent respectively.

At the same time, less than 10 percent of the overall volume of milk procurements in Ivanovo, Orel, Orenburg and Kemerovo oblasts and in the Komi and Kalmyk ASSR's is being accepted at the sites and the tasks for this indicator are not being fulfilled.

There are several reasons for the slowdown in this work. First of all, the kolkhozes and sovkhozes are not being adequately supplied with the technological equipment required for the weighing, primary processing and storage of the milk or for determining its quality. Nor are they being supplied with the required filtering and disinfecting materials.

In a number of oblasts the access roads leading to farms are being built very slowly and the equipment allocated is being distributed among many farms, thus limiting its effective use. In addition, no training is being provided for laboratory workers, material incentives for the quality of the milk are being introduced in a very weak manner and efficient use is not being made of the milk tank-trucks.

In addition to shortcomings in the work of the agricultural organs in preparing the farms to deliver the products at the sites where they are produced, a number of enterprises of the dairy industry are working in an extremely passive manner, with RSFSR Minmyasomolprom failing to display proper exactingness with regard to the leaders of these enterprises.

At the present time, the acceptance of milk is not being carried out at 800 kolkhozes and sovkhozes despite the fact that they were prepared for converting over to milk deliveries at the sites.

During the past few years, in the interest of making more efficient use of milk trucks, the RSFSR Ministry of Agriculture transferred more than 5,000 milk tank trucks over to the dairy industry. However, many enterprises of the dairy industry are not utilizing their specialized motor transport vehicles in a satisfactory manner for transporting milk from the farms. Thus, in the Mordovian ASSR and in Pskov, Rostov and a number of oblasts the milk tank trucks obtained using agricultural funds are being used for intra-farm technological operations.

The enterprises are making very limited use of the specialized transport equipment of the farms themselves or of the transport equipment of Minavtotrans /Ministry of Motor Transport/ or Goskomsel'khoztekhnika for shipping the products. It bears mentioning in the process that some enterprises of Goskomsel'khoztekhnika are not willingly providing all-round servicing for the equipment of dairy complexes and farms and are not organizing guaranteed technical support for them.

Nor can we recognize as correct a situation in which the RSFSR Minmyasomolprom /Ministry of the Meat and Dairy Industry/ and its associations in the various

areas, under the guise of production concentration, have in recent years tolerated a considerable reduction in the number of milk receiving points and local dairy plants, which in a number of instances has led to an increase in the distance for transporting the milk from 10-15 to 50 or more kilometers.

The decisions handed down by the directive organs call for not only milk but also livestock and poultry to be accepted at the sites. This problem is of equal importance in view of the fact that when their maintenance conditions are disrupted the livestock tend to lose live weight and the quality of the products is lowered.

However the RSFSR Ministry of the Meat and Dairy Industry, instead of accepting the livestock directly on the farms, has legalized so-called centralized shipping, the essence of which consists of the livestock being accepted on the farms only in terms of the number of head, with no determination being made as to weight or state of nourishment. The meat combines pay for and take this livestock into account based upon the weight of the carcasses obtained following the slaughtering of the animals and they are not responsible for losses in the live weight of the animals while enroute or during preslaughtering maintenance or for meat losses during the slaughtering process or processing of the carcasses. For the purpose of controlling the livestock deliveries, the farms are obligated to send specialists with each batch of animals.

Thus centralized shipping can be equated only to furnishing transport services and certainly it can in no way be considered as on a par with accepting products at the sites.

During 9 months of 1983, 280,000 tons of livestock and 92,000 tons of poultry were handled by means of centralized shipments throughout the republic; these figures were greater than the levels for 1982 by factors of 1.3 and 1.6 respectively. Centralized shipments were organized in a fine manner in Lipetsk Oblast, Stavropol Kray and the Tatar ASSR where 21,000, 65,000 and 14,000 tons of livestock (in live weight) respectively were accepted under these conditions. However, this work was not organized in other oblasts. There were two reasons for this: the first -- the meat combines do not have their own specialized motor transport equipment for shipping livestock and secondly -- the agricultural organs in the various areas are not interested in turning over specialized motor vehicles from their own funds, since livestock acceptance operations are still not being carried out at the sites and for all practical purposes centralized shipments are no different than the usual livestock deliveries by farms.

A strong factor tending to lower the possibility of accepting livestock at the sites is the fact that the meat combines lack the specialized motor transport equipment required for shipping the livestock and thus they refuse to accept them at the sites, preferring instead to transfer livestock carrying vehicles to the enterprises of Goskomsel'khoztekhnika or avtotrans /motor transport/. We are of the opinion that it is inadvisable to do this, since it is difficult to expect the enterprises of Sel'khoztekhnika, acting as intermediaries, to carry out in an efficient manner the schedules for delivering cattle from the farms. There obviously can be only one master -- the meat combine.

When converting over to accepting livestock directly on the farms, an urgent requirement exists for reexamining the existing GOSTs /state standards/, ensuring that they call for an evaluation of the animals not according to the deposits of subcutaneous fat but rather based upon their state of nourishment, age and weight conditions, that is, according to objective indicators which can be measured very easily. This eliminates disagreements between the suppliers and receivers of the livestock when determining the state of nourishment for the animals. The plan for such a GOST for cattle has been developed by the USSR MSKh /Ministry of Agriculture/ and VIZh /All-Union Scientific Research Institute of Livestock Breeding/ and yet for 4 years now the USSR Ministry of the Meat and Dairy Industry has been refusing to approve it.

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IMPROVED CATTLE, MILK PROCUREMENT SYSTEM CALLED FOR

Moscow ZHIVOTNOVODSTVO in Russian No 1, Jan 84 pp 2-4

/Article by V.M. Kozhevnikov, deputy chief of the Main Administration for Animal Husbandry of the USSR Ministry of Agriculture: "Improvements in Procurements of Cattle and Milk"/

/Text/ The country's Food Program, approved during the May (1982) Plenum of the CPSU Central Committee, underscores the need for improving the organization of procurements of cattle, milk and other animal husbandry products, expanding the network of procurement enterprises and points, locating them as near as possible to the production areas, raising the responsibility of the procurement organs and enterprises for the timely acceptance and proper safeguarding of the products and accelerating the conversion over to accepting the cattle and milk directly on the farms.

The thematic selection published in this issue of the journal has to do with the work carried out at kolkhozes, sovkhozes and enterprises of the meat and dairy industry in connection with raising the quality of the products and introducing their acceptance on the farms. In addition, the reasons for the delays taking place in expanding the acceptance of cattle, milk and wool directly at the kolkhozes and sovkhozes are also revealed.

A distinctive feature of the agrarian and economic policies during this modern stage is the use of a special purpose comprehensive approach for solving the Food Program, that is, combining the efforts of agriculture, the industrial branches which provide services for it, trade and transport, for the purpose of increasing the production of high quality food products and delivering them to the consumers without unnecessary losses.

The May (1982) Plenum of the CPSU Gentral Committee emphasized that further growth in the production of food goods, including the more valuable products --meat, milk, eggs -- is greatly dependent not only upon the efforts of the agricultural workers. In solving this important task, a great amount of assistance must be furnished by enterprises of the meat and dairy industry,

procurement organizations and transport, all of which are obligated to ensure the timely acceptance, delivery and processing of the products.

With growth taking place in the production of agricultural products, the problems which arise where the intrests of the farms, enterprises and organizations included in the agroindustrial complex tend to merge, become more acute. The timely delivery, acceptance and processing of the products, correct evaluations of their quality -- these factors taken together tend to reduce losses considerably and to raise the interest of the kolkhozes and sovkhozes, procurement organizations and enterprises of the processing industry in the final results of their endeavors.

In recent years the party and government have handed down a number of very important decrees aimed at developing and strengthening, to the maximum possible degree, direct contacts between industrial and trade enterprises on the one hand and kolkhozes and sovkhozes on the other.

Included among the more important measures outlined in the USSR Food Program for the period up to 1990 is the task aimed at improving the organization of procurements of cattle, milk and other animal husbandry products, expanding the network of procurement enterprises and points and locating them as close as possible to the production areas.

The plans call for the completion during the 12th Five-Year Plan of the conversion over to accepting cattle and milk directly on the farms and to shipping the products from the farms using transport equipment made available by the procurement specialists.

The July 1983 decree of the CPSU Central Committee and the USSR Council of Ministers entitled "Improvements in the Economic Relationships of Agriculture With Other Branches of the National Economy" is directed towards further raising the responsibility of the procurement enterprises and organizations with regard to increasing the production and procurements of agricultural products and achieving high final results.

Commencing in 1983, the principal indicators for evaluating the work of procurement enterprises and organizations have been: fulfillment of the state procurement plan for agricultural products and raw materials, increasing the procurement volumes compared to the level achieved during the preceding 5 years, ensuring proper care for the products procured, the timely processing and delivery of the products to the consumers in a broad assortment and at a high level of quality and reduced expenditures for the procurement, storage and processing of the products.

The five-year plan for the economic and social development of the USSR during the 11th Five-Year Plan calls for the implementation of large-scale measures aimed at improving the safeguarding of the products. In particular, 26 percent more capital investments are being allocated for developing the meat and dairy industry than were made available during the 10th Five-Year Plan and for strengthening the food industry -- 22 percent more. Considerable investments are being employed for developing the logistical base for kolkhoz and sovkhoz production. The construction of hard surface roads and farm access roads is being carried out. The conditions required for converting over to accepting

products at their productio sites have already been created at many kolkhozes. Loading and unloading platforms have been built and the dairy farms have been equipped with scales, refrigeration units, containers for the storing of milk and also with laboratory equipment for determining its quality.

Considerable importance is being attached at the present time to launching a persistent and purposeful campaign aimed at safeguarding all of the products being produced. A reduction in losses is tantamount to obtaining an additional amount of highly valuable food products for the population and raw materials for industry.

In many regions of the country, experience has been accumulated in developing direct relationships between enterprises of the processing industry on the one hand and kolkhozes and sovkhozes on the other. In the Lithuanian SSR, for example, the meat combines obtain a considerable portion of their cattle directly on the farms, with their weight and state of nourishment being determined at the site. Approximately 70 percent of the cattle and 37 percent of the milk procured is shipped from the kolkhozes and sovkhozes by the processing enterprises. In Gantsevichskiy, Pinskiy, Brestskiy, Voronovskiy, Slonimskiy, Dyatlovskiy and a number of other rayons, almost 90 percent of the cattle is being shipped on a centralized basis. All of the milk on farms in Dyatlovskiy, Slonimskiy and Korelichskiy rayons in Grodno Oblast is being accepted at the sites. This progressive form for accepting products is being employed on an increasing basis in the Estonian SSR and in Leningrad, Belgorod, Chernovtsy, Dnepropetrovsk and some other oblasts. Mutual businesslike relationships are being developed here within the framework of a unified agroindustrial complex and this is ensuring rhythmic production operations for enterprises of the processing industry, it encourages the efficient use of specialized motor transport equipment, it reduces output losses and it is improving the quality of the products.

At the same time, proper attention is not being given to this important work in a number of regions throughout the country. Only negligible quantities of milk are being accepted at the sites in the Azerbaijan SSR, Armenian SSR, Mordovian ASSR, Mari ASSR and in Penza, Volgograd and Orel oblasts, despite the fact that the conditions required are available at many of the farms.

In the Azerbaijan SSR only 10 percent of the cattle is being accepted on the basis of direct contacts and in Moldavia, Uzbekistan, Tajikistan, Krasnoyar and Altay krays and in Ivanovo, Kirov, Kuybyshev, Tomsk, Penza, Tambov, Irkutsk, Ulyanovsk, Yaroslavl oblasts this work for all practical purposes has not even been organized.

During the past few years, the centralized shipping of cattle in the absence of their being accepted in the production areas has been employed extensively in a number of regions. This method is being used for example in the Belorussian SSR. The operational experience accumulated in the use of this system has shown that the effectiveness of use of specialized motor transport equipment of the republic's Minmyasomolprom /Ministry of the Meat and Dairy Industry/ has increased by 18-20 percent. The schedule for delivering cattle for processing purposes is being observed in a more efficient manner. At the same time, centralized shipping is not eliminating such serious shortcomings

as holding the animals for too long a period at the meat combines, disruptions in the processing technology and the output losses associated with such disruptions.

In the case of such centralized shipping, the meat combines are not held responsible for product losses which occur during the transporting and processing of the animals. All losses are borne by the farms. The processing enterprises are responsible for safeguarding the products only after the fully processed carcases have been weighed and prior to their being placed in coolers.

A random check\_carried out in August 1983 by the USSR TsSU /Central Statistical Administration/, involving the participation of specialists from the USSR MSKh /Ministry of Agriculture/ and the USSR Ministry of Procurements, revealed numerous instances of violations by the meat combines of the schedules established for the pre-slaughtering holding of the animals. At the Dondyushany Meat Combine in the Moldavian SSR the slaughtering of the cattle in a number of instances was carried out on the 3d or 4th day following their arrival. More than 80 percent of the cattle delivered to the Grodno Meat Combine in the Belorussian SSR were held for 39 hours longer than required. Similar incidents have been uncovered at meat combines in Khabarovsk Kray and in Amur, Guryev, Aktyubinsk, Kokchetav, Taldy-Kurgan, Dnepropetrovsk, the Crimean and other oblasts and also at the Dushanbe and Ashkhabad meat combines.

Many agricultural specialists and workers attached to procurement organs view centralized shipping as a means for solving the problem of reducing losses in meat products. However, this is possible when organizing the acceptance of cattle on the basis of their live weight at kolkhozes and sovkhozes; it makes it possible to raise the responsibility of meat industry workers for safeguarding their products during all stages in the acceptance and processing of the animals.

Fine experience has been accumulated in the Lithuanian SSR in organizing the acceptance of cattle in the product on areas and delivering them to the meat combines. Here, in 1982, 65 percent of the overall volume of state purchases was accepted directly on the farms and shipped using specialized transport equipment furnished by the meat processing industry. On the average for the republic, approximately 1,500 tons of cattle are shipped annually in one cattle carrier, a figure that is higher than the average indicators for the country by a factor of 2.5. Thus the average weight per head of cattle sold to the state in 1982 was 407 kilograms, compared to an average of 341 kilograms for the country; the proportions for cattle in a high state of nourishment were 80 and 56 percent respectively. Thirty five percent of the swine sold by the republic's kolkhozes and sovkhozes were of 1st category quality, with the indicator for the country being considerably lower. In 1983 the average live weight for cattle sold to the state reached 426 kilograms.

The use of this method for accepting cattle has also been organized in Zaporozhye and Lipetsk oblasts and in Krasnodar and Stavropol krays.

Strong improvements are required in the organization of milk procurements. There have been numerous instances of kolkhozes and sovkhozes shipping their

products to procurement points without first determining the quantities or quality and without having prepared the invoices in the proper manner. The milk laboratories in many areas are poorly equipped. The leaders of these farms are displaying very little concern for improving the skills of the specialists and this is leading to mistakes in determining the quality of the milk.

Enterprises of the dairy industry in some regions, despite not having organized the acceptance of milk in the production areas, are unjustifiably closing down the milk receiving points and this is leading to a considerable increase in the distances for delivering the products to the plants and also in the kolkhoz expenses required for transporting them. Over the past 8 years in Odessa Oblast, for example, the number of milk receiving points has decreased by twofold and the distances for delivering the products to the milk plants have increased by a factor of 6-8. Sixteen separator departments were eliminated in Ulyanovsk Oblast. Thus the milk delivery distances for farms in Surskiy Rayon, for example, increased by more than 50 kilometers. Moreover, in addition to increased transport expenditures, the kolkhozes and sovkhozes experienced reductions in the production of 1st grade milk. Similar situations prevail in Perm, Saratov, Orenburg, Vologda and some other oblasts.

In a number of areas the capabilities of the processing enterprises are not ensuring the timely acceptance and processing of the milk, especially during the summer months. The Tselinnyy acceptance point of the Pugachev Milk Canning Combine in Saratov Oblast was planned for the processing of not more than 20 tons of milk daily, however the daily delivery of products by kolkhozes and sovkhozes in the rayon was 8-9 tons more during May and June 1983. And it is no accident that tank trucks loaded with milk often lie idle here for up to 2-3 hours or that large quantities of milk are accepted with a raised acidity level or even returned to the farms.

Some farms in Kemerovo, Vinnitsa, Chernovitsy and Volyn oblasts have refused to turn over their milk at the sites owing to systematic disruptions in the delivery schedules for the milk tanker trucks.

The oblast and rayon agroindustrial associations must increase the responsibility of workers attached to the processing industry for the timely acceptance and processing of the products and for dealing more strictly with each disruption in the schedules.

In conformity with the decisions handed down during the May (1982) Plenum of the CPSU Central Committee, a complex of measures is being carried out throughout the country directed towards raising the efficiency of animal husbandry operations. Greater importance is being attached to the role being played by such economic factors as price, profit and credit, with greater emphasis being placed upon the production and financial activities of kolkhozes and sovkhozes. In addition, cost accounting procedures are being promoted in all structural subunits of agricultural production. Commencing 1 January 1983, the purchase prices for cattle, swine, sheep, goats, milk and other products were raised considerably towards this end and bonuses were introduced for low profitability farms. All of this requires considerably greater control over the observance of prices and over the maintenance of the agricultural output accounts in a timely and correct manner.

At the same time, many examples could be cited showing how the receivers of the products, taking advantage of the low competence of the suppliers, understate the quality and quantity of the products and employ the purchase prices and bonuses for the agricultural products incorrectly. In 1982 the Leninskiy Dairy Plant in Khabarovsk Kray lowered the weight of the milk received by 71.5 tons and underpaid the farms by 28,000 rubles. In 1982 the underpayments for cattle at meat combines in Orenburg and Chita oblasts amounted to more than 500,000 rubles.

The Mstislavl Butter and Cheese Plant (Mogilev Oblast in the BSSR), upon receiving a delivery of milk by tractors, made payment on the basis of uniform rates for the transporting of freight by motor transport and not according to the rates for the transporting of freight by tractors with trailers and, as a result, the kolkhozes and sovkhozes were underpaid by 672 rubles.

The agricultural organs in the various areas and the state inspectorates for the quality of agricultural products must wage a decisive campaign against attempts by the processing enterprises to lower the quantity and quality of the products and against the incorrect use of prices and overcharging of the kolkhozes and sovkhozes. Every attempt must be made to ensure that the kolkhoz and sovkhoz leaders and specialists are aware of the existing norms and instructions for product procurements and the price lists.

At the present time the USSR Ministry of Procurements and the USSR Ministry of Agriculture, with the participation of the USSR Ministry of the Meat and Dairy Industry, the USSR Ministry of the Light Industry, USSR Tsentrosoyuz /Central Union of Consumers' Societies/ and a number of other ministries and departments have developed new statutes governing the system for concluding agreements and carrying out contractual agreements for agricultural products and also standard contractual agreements. The mentioned documents call for measures simed at raising the responsibility of the procurement organizations for the timely acceptance of all agricultural products supplied by the farms and safeguarding the products and the kolkhozes and sovkhozes -- for the quality of the products sold.

In stances involving incorrect accounts between the procurement organizations and enterprises on the one hand and kolkhozes and sovkhozes on the other, for the sale of agricultural products, the rayon agroindustrial associations are authorized to sue the procurement organizations and enterprises in the established manner and in favor of the kolkhozes and sovkhozes (provided such suits have not been initiated by the farms themselves), for the purpose of recovering amounts not paid to them or overpayments by them. It has been established that in the process the procurement enterprises and organizations are to pay a fine into the union budget in the amount of 20 percent of the total amount recovered. These measures are making it possible beyond any doubt to strengthen procurement discipline considerably in all elements of the agroindustrial complex.

The industry which supplies the farms with equipment is under an obligation to carry out a great amount of work in connection with strengthening direct contacts. A number of kolkhozes and sovkhozes are suffering shortages of pasteurizers, milk cans, containers in which to store and cool the milk, milk scales and reagents.

Serious shortcomings must be eliminated in connection with organizing the planned repair of machines and equipment at livestock farms using the resources of Goskomsel'khoztekhnika. The servicing of machines for the primary processing of milk and steam generating boilers at the Ryazan Oblsel'khoztekhnika has not been organized. At one out of every three farms checked in Minsk, Khmelnitskaya, Odessa and Nikolayev oblasts, the agreements are systematically not being carried out and the work is being performed in a low quality and untimely manner.

Improvements in the economic relationships of agriculture with other branches of the national economy will make a worthy contribution towards the implementation of the country's Food Program.

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AGRICULTURAL TASKS FOR 1984 HIGHLIGHTED

Moscow SEL'SKAYA ZHIZN' in Russian 5 Jan 84 p 1

/Article: "Great Tasks of the Agroindustrial Complex/

/Text/ The implementation of the country's Food Program is one of the chief trends in the party's economic strategy. It is based upon a considerable increase in the production of farming and animal husbandry products and in improving their storage, processing, transporting and sale. Its scientific basis and purpose, with regard to improving the welfare of the people, are clearly embodied in the laws adopted during the 9th Session of the USSR Supreme Soviet concerning "The State Plan for the Economic and Social Development of the USSR for 1984" and the "USSR State Budget for 1984."

The increase in national income during the 12 months must amount to 3.1 percent and the plans call for all of it to be used for further raising the standard of living of the people. The production of all types of agricultural products must be intensified and raised to 140.4 billion rubles worth -- this is 8.4 billion (or 6.4 percent) more than the figure for last year -- an extremely large difference. Moreover, the plans call for it to be obtained only by raising labor productivity, which in the public sector must increase by 8.5 percent -- as you can see, the rates of growth must be very high. Thus the party and professional trade union organizations and all of the labor collectives, as emphasized in the speech delivered by Comrade Yu.V. Andropov during the December (1983) Plenum of the CPSU Central Committee, must be assigned a specific task -- to achieve an above-plan increase in labor productivity of at least 1 percent and to lower output production costs by 0.5 percent. Moreover, this task must be viewed as being additional to the plan.

Labor productivity in agriculture is determined by the productivity of the fields, meadows, orchards and farms. Hence, in order to raise it, the crop and milk yields and weight increases in the animals must be increased. This in turn requires improvements in the culture of farming and animal husbandry, the more active use in all areas of the latest scientific developments, the replacement of equipment and technologies and improvements in labor organization and in production as a whole. In this regard, a special role will be played by further development of the cost accounting and contractual relationships within the farms and enterprises and throughout the entire sphere of the agroindustrial complex. The conversion over to progressive forms for labor organization, as revealed by the experience of last year, has made it possible

to achieve noticeable advances in the intensification of farming and animal husbandry at many kolkhozes, sovkhozes and inter-farm enterprises. The personnel are applying themselves in a more responsible manner to their work, they are carrying out their tasks in a better and more timely manner and they are utilizing the available resources in a more zealous manner. All of this has served to produce noticeable and positive results. Thus the farm leaders and specialists, their subunits, the economic services of kolkhozes and sovkhozes and the RAPO /rayon agroindustrial association/ councils must concentrate their efforts on expanding and consolidating cost accounting and the use of collective contracts to the maximum possible degree and on improving accounting and control in all sectors of production.

The state purchases of grain, cotton, potatoes, vegetables, melon crops, tobacco, tea leaves, the cocoons of mulberry silkworm moths and pond fish in 1984 must be at the level called for in the five-year plan or somewhat higher than it and those for livestock and poultry -- more than in 1983, but somewhat less than the amounts called for in the tasks for the five-year plan. All of this requires a considerable increase in the production of the principal types of farming and animal husbandry products and this will be promoted by a strengthening of the logistical base for agriculture and other branches of the APK. The deliveries of new equipment to the kolkhozes and sovkhozes must be in keeping with the tasks for the five-year plan, mineral fertilizers --23.3 million tons (in a conversion for a 100 percent nutrient content and 575,000 tons of standard units of chemical plant protective agents -- this is somewhat higher than the indicators planned for 1984. An urgent task of the agronomic service is that of skilfully employing the existing logistical potential at each farm in the interest of optimizing all operations and the technological cycles and obtaining the greatest return from the land.

At the present time, prior to the commencement of spring, special importance is being attached to once again adjusting and defining more exactly all of the elements of the local system of farming in keeping with the specific conditions found at each kolkhoz or sovkhoz -- soil cultivation, applying fertilizers, alternation of crops in a crop rotation plan, tending the crops, protecting them against pests diseases and weeds. These works should be included in a timely manner in the technological charts and production tasks for the mechanized detachments, brigades, teams and for each worker. And in those areas where the possibility exists of cultivating a particular crop using a special program prepared in advance, the personnel should be trained in the use of the program and the seed, machines and instruments prepared in a manner so as to ensure that the new integrated method for obtaining the desired crop is employed on the largest possible area.

Production intensification is viewed as being a decisive factor for raising the fertility of fields and the productivity of farms. Capital investments in developing the rural areas in terms of an entire complex of operations reached 38 billion rubles in 1984. A considerable proportion of these investments was aimed at renovating lands. Reclaimed fields, meadows and orchards are being employed for growing all of the cotton and rice, three fourths of the vegetables, approximately one half of the fruit and one fourth of the coarse and succulent feeds. And this proportion could be increased considerably: this year, 666,000 additional irrigated hectares and 700,000 additional drained

hectares will commence furnishing yields and their overall area will be expanded to 34 million hectares. Not all of this land is being utilized in an efficient manner. The land reclamation specialists are responsible for improving new tracts of land to the highest level of fertility, reorganizing obsolete systems and increasing the return from renovated lands in all areas by raising the culture of farming.

A noticeable increase is taking place in state capital investments in the construction of vegetable and fruit storehouses and in refrigeration units -- 13 percent, and in the creation of bases for feed production and feed preparation -- 11 percent. The overall results to be realized from the economic activities of the APK are directly dependent upon the rapid development of these subunits. To achieve this is a priority task of the rayon and oblast APO's and the construction and engineering services of the kolkhozes and sovkhozes.

Measures undertaken last year have made it possible to improve the supply of certain principal food products for the population -- potatoes, vegetables, fruit. Increases took place in the purchases and sale of milk, meat and eggs. A fine foundation is available for intensifying the production and purchasing of these products this year. This requires a good wintering campaign for the livestock, substantial improvements in the cropping power of the grain, forage and other crops and improvements in their storage.

The workers attached to animal husbandry farms and complexes and the mest and dairy industry must increase the production of milk, meat, eggs and the various products produced from them and enterprises of the Ministry of the Fruit and Vegetable Industry -- fruit and vegetable canned goods. Considerable new capabilities for the storage and processing of agricultural products must be created in the food branches of industry and existing capabilities modernized.

In the State Plan for the Economic Development of the USSR During 1984, special importance is being attached to improving the working and living conditions of rural residents. The volumes of housing and cultural-domestic construction will increase at a rapid rate. Roughly 5.6 billion rubles worth of state capital investments have been allocated for this purpose -- 9 percent more than last year and almost 3 percent more than was called for in the five-year plan for this year. The subsidiary farms of industrial transport and construction enterprises and also the private plots of kolkhoz members and manual and office workers and also orchard and gardening associations will undergo further development.

A persistent need exists for raising the effectiveness of use of the potential created in agriculture and the return from resources aimed at developing the agroindustrial complex, in the interest of completely solving the problem of supplying the country's population with all of the needed food products. This constitutes the very first obligation of the party and soviet organs, the ministries and departments and the leaders and specialists attached to all branches of the APK.

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# AGRO-ECONOMICS AND ORGANIZATION

# UTILIZATION OF LEGAL SERVICES TO STRENGTHEN APK OPERATIONS

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/Article by N. Malchenkov, deputy chief of administration for the USSR Ministry of Justice: "Legal Work in an Agroindustrial Complex"/

Text/ In solving the tasks planned by the party for implementing the Food Program, an important role is played by legal means for exerting an influence on development of the agroindustrial complex and on improving its economic mechanism. Decree No. 1025 of the CPSU Central Committee and the USSR Council of Ministers dated 23 December 1970 entitled "On Improving Legal Work in the National Economy" obligates the USSR ministries and departments to make more extensive use of legal means for raising the economic efficiency of social production, strengthening state discipline and carrying out the planned tasks and contractual obligations.

The USSR Ministry of Justice and its organs in the various areas, by providing methodological management for legal work in the national economy, are promoting a strengthening of socialist legality and improvements in the use of legal means in the ministerial and departmental systems of the agroindustrial complex.

Recently the USSR Ministry of Justice became acquainted with the status of this work in six ministries and departments included in the agroindustrial complex. In the USSR Minsel'khoz /Ministry of Agriculture/ and USSR Minmyasomolprom /Ministry of the Meat and Dairy Industry/, we became interested in the practice of using legal means for ensuring safeguarding of the livestock and agricultural products during transporting and processing and also for providing reimbursement for losses. Within the USSR Goskomsel'khoztekhnika system, a study was undertaken of the organization of work concerned with ensuring the fulfillment of agreements concluded with farms and the use by kolkhozes and sovkhozes of property sanctions in instances of violations of contractual obligations. Based upon the results of this familiarization, appropriate letters containing recommendations were sent out to the ministries and departments. The majority of them were examined by the boards of the ministries and orders were issued directed towards improving legal work and stimulating the activities of the legal services.

<sup>\*</sup> USSR SOVIET LAW, 1971, No.1, Article 1.

The effectiveness of such recommendations is greatly dependent upon how actively and purposefully the organs of justice in the various areas provide methodical management for legal work in the union and autonomous republics, krays and oblasts and what type of assistance they furnish to the RAPO's /rayon agroindustrial associations/ and to the legal services of these recently created agricultural organs of administration. It is precisely with this goal in mind that the USSR Ministry of Justice constantly plans and carries out checks on the activities of the union republic ministries of justice. Thus, in light of the requirements handed down during the May and November (1982) plenums of the CPSU Central Committee, checks were carried out this year on the work of the ministries of justice for the Latvian SSR and the Uzbek SSR.

There was good reason for selecting these two ministries. As is known, the formation of rayon agroindustrial associations in the Latvian SSR was completed back in 1981 and some RAPO's have already been operating for several years. A definite amount of experience has been accumulated here in the creation and work of legal services in a RAPO. The principal goal of the check was to study this experience.

# What did the check reveal?

In light of the requirements handed down during the May and November (1982) plenums of the CPSU Central Committee, the Ministry of Justice for the Latvian SSR carried out a program simed at familiarizing the central staff of the republic's Minsel'khoz, certain rayon agroindustrial associations and also the Latvian SSR Goskomsel'khoz@ekhnika and Minmyasomolprom systems with the practice of employing legal means for ensuring the safeguarding of the livestock and reimbursement for losses associated with their transporting and processing. Within the republic's Minzag /Ministry of Procurements/, Minplodoovoshchkhoz /Ministry of the Fruit and Vegetable Industry/ and Mintorg /Ministry of Trade/ systems and also Latpotrebsoyuz /Latvian Republic Union of Consumers' Societies/, a study was undertaken on the participation of legal services in combating misappropriation, mismanagement and waste. Based upon the results of this familiarization program, letters containing recommendations for improving the work of the legal services were sent to the ministries and departments. As a result, the problems concerned with the status of legal work are being discussed more frequently at meetings of the boards. Practically all of the ministries and departments included in the agroindustrial complex have issued orders concerning the need for intensifying legal work and comprehensive plans have been approved for the principal measures for providing legal support for carrying out the tasks of the 11th Five-Year Plan.

Allow me to add a few words concerning the structure and functions of the republic's legal service in the rural areas.

Legal services have been created here in all of the rayon agroindustrial associations. Twenty of them are legal personnel departments. They consist of 2-3 lawyers and a personnel specialist. In addition to performing work on a RAPO's staff, they are also responsible for providing legal services for farms in the rayon. They are headed by lawyers. Independent legal departments have been organized at four RAPO's and at two of them -- legal

groups. In all, there are 135 lawyers working in agriculture throughout the republic, with 70 of them attached to rayon agroindustrial associations and the remaining ones -- on the staffs of kolkhozes and sovkhozes. This has made it possible to organize legal services for practically all of the farms and agricultural organizations.

They organize their work in the following manner: In accordance with quarterly plans that are approved by the RAPO chairmen, they visit the farms on a regular basis, participate in contractual work, validate documents of a legal nature and carry out checks on the observance of economic, kolkhoz, land, labor and other legislation. They employ legal means for ensuring the protection of socialist property and also for obtaining compensation for damages caused by deficits, misappropriations and spoilage of agricultural products. It bears mentioning that they participate directly in the work of committees for examining the financial-economic results of kolkhozes and sovkhozes, in the capacity of members of these committees. Such then, on the whole, are the functions of the republic's agricultural legal services.

It bears emphasizing that the Ministry of Justice for the Latvian SSR coordinates this activity very closely with the republic's Ministry of Agriculture. The overall plan for measures to be carried out is approved by the leadership of these ministries. They jointly analyze the status of the legal work and the structure and staffing of the legal services in agriculture.

In view of the requirement for lawyers, a letter was sent to Gosplan for the Latvian SSR requesting an increase in the number of young specialists -- lawyers, being assigned annually to the republic's Minsel'khoz. In addition, they are jointly conducting seminars for the heads of departments and lawyer-consultants attached to the RAPO's, organizing an exchange of operational experience and providing the necessary reference materials.

All of this has stimulated noticeably the activities of lawyers aimed at protecting the property interests of kolkhozes and sovkhozes and it has exerted a definite effect with regard to strengthening legality throughout the branch. A majority of all economic agreements are now being concluded annually with the participation of lawyers. More efficient use is being made of legal means for ensuring the proper quality and safeguarding of products and for achieving compensation for damages from the guilty parties. Thus, during one half of last year and compared to the same period for the previous year, a reduction took place in the total amount of losses sustained at kolkhozes and sovkhozes throughout the republic as a result of misappropriations, deficits and spoilage in commodity stocks.

Improvements were achieved in work aimed at strengthening labor discipline. Annually the lawyers working in agriculture carry out more than 2,000 checks on the observance of labor legislation. As a result, many local legal documents issued incorrectly in this regard were made to conform to the legal norms.

The experience accumulated in the Latvian SSR in creating a legal service for RAPO's and in organizing services for the kolkhozes and sovkhozes was reviewed and recommended for use by the organs of justice in the various areas by the Board of the USSR Ministry of Justice.

The work being carried out by the Ministry of Justice for the Uzbek SSR was also checked in this regard.

Let us begin directly with the conclusion: in carrying out its work, a republic's ministry of justice devotes a great amount of attention to problems concerned with the management and control over legal departments, furnishing assistance to economic organs in improving their use of legal means for strengthening legality and state and labor discipline, safeguarding socialist property and raising the role played by the legal services in this regard.

This requires the use of various work forms and particularly inspections carried out in the legal departments. For example, inspections were recently carried out in eight legal departments of executive committees of oblast councils, with four of them being concerned with the organization of methodical management of legal work in an agroindustrial complex. As a rule, such inspections are headed by the minister, his deputies and members of the board. The results of these inspections are related to the Soviet organs and examined during a meeting of the board, with control being exercised over all decisions handed down in this regard.

The republic's Ministry of Justice, attaching great importance to all matters concerned with the methodical management of legal work, carries out a familiarization program in the ministries and departments of the agro-industrial complex. Recently such studies were carried out within the Minsel'khoz. Minmyasomolprom and Uzbpotrebsoyuz /Uzbek Republic Union of Consumers' Societies/ systems in connection with the use of legal means for safeguarding socialist property and obtaining compensation for losses; in Minpishcheprom /Ministry of the Food Industry/, Minzag and Minplodoovoshchkhoz -- on the status of contractual discipline and legal support for the production of good quality products; in Minvodkhoz /Ministry of Land Reclamation and Water Resources/ -- on the observance of labor legislation and on strengthening labor discipline. In a number of organizations, workers attached to the Ministry of Justice acquainted themselves with the practice of employing legal means for combating codicils and other accountability distortions. the majority of instances, the status of affairs is being studied in a thorough manner. The results are being reviewed during meetings of the board and also during joint meetings of the boards of the Ministry of Justice and branch ministries. All of this is making it possible to send out wellreasoned letters containing specific recommendations, the fulfillment of which is being controlled.

Similarly, a majority of the justice departments are organizing their own operations. For example, the Department of Justice for the Samarkand Oblast Executive Committee studied the situation with regard to the use of legal means for protecting socialist property at kolkhozes and sovkhozes in Ishtykhanskiy Rayon. Jointly with the oblsovprof /oblast council of trade unions/, they studied the manner in which labor legislation is being observed at enterprises of the food and meat and dairy industries and by elements of consumer cooperation. The results of this study were subsequently examined during a meeting of the Samarkand Oblast Executive Committee. Similar familiarization programs were also carried out by the Ministry of Justice for the Kara-Kalpak ASSR and by the justice departments of the executive committees

of the Dzhizak, Namangan, Surkhan-Darya, Syr-Darya and Fergana oblast councils. The status of contractual and legal work concerned with claims and suits at enterprises of the agroindustrial complex was studied by the justice departments of the executive committees of the Tashkent, Fergana and Khorezm oblast councils.

Each year the ministry of justice of a republic, jointly with the legal departments of ministries and departments, analyzes the status of legal services for associations and enterprises by branches of the republic's national economy, including within the agroindustrial complex. This promotes to a considerable degree a strengthening of the legal service and an increase in the number of lawyers working within the agroindustrial complex. Thus, over the past 2 years the number of lawyers working within the Uzbek SSR as a whole increased by 11 percent. It increased by 15-30 percent in Andizhan, Bukhara, Kashka-Darya and Samarkand oblasts. Within the republic's Minzag, Minvodkhoz and Goskomsel'khoztekhnika systems, the number of lawyers increased by up to 40 percent, including in Minplodoovoshchkhoz -- by twofold. At the present time, legal services in Uzbekistan are being made available to more than one half of all enterprises and organizations included in the agroindustrial complex. Here, following the elimination of inter-farm legal groups, legal services were created in the rayon and oblast agroindustrial associations and the number of staff lawyers at the kolkhozes and sovkhozes increased by almost twofold.

The republic's Ministry of Justice is devoting a great amount of attention to the preparation of recommendations, viewing them as a form for methodical management. Thus it has recently developed methodical recommendations for the planning of work and for participating in a campaign aimed at combating violations of land legislation, codicils and other accountability distortions. This in turn prompts the legal departments of branch ministries and departments to produce methodical recommendations, while taking into account their own particular peculiarities. For example, the republic's Minsel'khoz prepared recommendations for raising the efficiency of legal work in agriculture, Minpishcheprom -- on organizing the work of enterprises and associations in connection with employing legal means for raising the quality of products being produced and Minmyasomolprom -- on the system for concluding agreements for deliveries of dairy products.

within the republic, a great amount of attention is being given to studying and popularizing the leading work experience of legal services. Thus the Ministry of Justice for the Uzbek SSR has disseminated the operational experience of the legal service of the Bostanlykskiy Rayon Agricultural Administration in protecting the property interests of farms and that of the Chirchik Meat Combine -- in combating minor misappropriations and also legal support for introducing the brigade form for organizing and stimulating labor at enterprises of Minpishcheprom. The operational experience of lawyer-consultants at the Namangan Obshchepit Trust, the Fergana Butter and Fat Combine and others has been disseminated by the justice departments of the executive committees of oblast soviets of people's deputies.

Heasures carried out by the ministry and by the republic's justice departments of the executive committees of oblast councils have promoted more active use

of legal means for strengthening legality in agriculture, at enterprises and organizations of the agroindustrial complex. The number of actions being instituted for reimbursement for losses and being examined by the courts is increasing annually throughout the republic. The plans call for a reduction in losses caused by misappropriations, deficits and spoilage of commodity stocks in agriculture.

It is apparent that a considerable amount of work has already been carried out. However, the tasks set forth in the decisions handed down by the party and government and in the speech delivered before the November (1982) Plenum of the CPSU Central Committee by the general secretary of the CPSU Central Committee Comrade Yu.V. Andropov, with regard to strengthening socialist legality in economic work and intensifying the campaign against violations of state and labor discipline, and also the decisions of the June (1983) Plenum of our party's Central Committee require further improvements in methodical management, particularly in the form of legal work carried out in the agroindustrial complex.

Based upon these requirements, the Board of the USSR Ministry of Justice. during the course of examining the results of an inspection, noted that some justice departments of the executive committees of oblast councils in the Uzbek SSR had not coordinated their activities adequately with the oblast agricultural administrations during the period devoted to creating the rayon and oblast agroindustrial associations. This undoubtedly had an adverse effect -- the position of legal consultant was not added to the staffs for all of the RAPO's. The structure of the legal services is in need of improvement from the standpoint of quality. This is borne out by the fact that 118 individuals who lack legal training are serving as legal consultants at enterprises and associations of ministries and departments included in the agroindustrial complex. Meanwhile, other positions for legal service workers have remained vacant for a considerable period of time. In this regard, it has been recommended that the republic's Ministry of Justice devote greater attention to personnel work and particularly to those personnel in the justice departments of oblast executive committees who are concerned with the methodical management of legal work in the national economy.

The Board of the USSR Ministry of Justice recognizes the need, when providing methodical management for legal work in the agroindustrial complex, to devote special attention to those problems concerned with making more active use of legal means for protecting the crops, feed and agricultural equipment, strengthening contractual discipline and combating mismanagement. This work should be carried out in a manner so as to raise directly the efficiency of agricultural production and successfully carry out the country's Food Program.

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### AGRO-ECONOMICS AND ORGANIZATION

# COLLECTIVE CONTRACT IN ESTONIAN AGRICULTURE EVALUATED

Tallinn SOVETSKAYA ESTONIYA in Russian 3 Feb 84 p 2

Article by M. Tamm, andidate of conomic ciences and head of a laboratory at the Estonian Scientific Research Institute of Farming and Land Reclamation: "Cost Accounting -- The Path To Intensification"/

Text/ The opinion persists that it is merely necessary to establish a material stimulus, that is, to pay money for action carried out in a particular direction, and the desired result will in all probability be achieved. Actually, it is not quite this simple owing to the fact that economic measures do not always produce the desired results and at times they even produce directly opposite results.

Allow me to cite an example drawn from the history of agricultural development in the U.S.A. World War II was followed by an overproduction of agricultural products, which led to unstable prices and the ruin of farmers. The decision was made to overcome this problem by employing a natural means -- reducing the sowing creas. The profits which the farmers had not earned were reimbursed to them in the form of state subsidies. The farmers used the money so obtained to purchase fertilizers, lst class seed, pedigree livestock and new equipment and they renovated their buildings, that is, they made additional investments in the land, which remained in use, and they increased their output by means of intensification. The unsuccessful program aimed at reducing the sowing areas was abolished with no special publicity after having served as a stimulus for converting over to the intensive path of development: raising productivity while reducing the number of livestock and raising cropping power while reducing the sowings.

In the interest of economically stimulating growth in agricultural output, during the 10th Five-Year Plan we established a 50 percent bonus for adding on to the purchase prices for products sold over and above a firm plan. This motivated the farm leaders into achieving lowered tasks. This led to the establishment of additional tasks and to the appearance of a multiple-plan system, which was abolished by a July (1978) Decree of the Plenum of the CPSU Central Committee. During the 11th Five-Year Plan, a bonus was established for adding on to the prices for products sold over and above the achieved level. Growth in output and profits was used as the basis for awarding bonuses to leading agricultural workers.

But an increase in output is achieved most easily by increasing the means of production. Growth in the capital-labor ratio ensures an increase in labor productivity. But a raised demand for production resources and manpower has become a "secondary" phenomenon. And this occurs under conditions involving limited reserves for raising production efficiency and at times when there is simply a low return from available resources. Experience prompts the economic leaders mainly towards "uncovering" and "utilizing" the resources.

The high achievements of the Vinnitsa Support-Model Sovkhoz Technical School, for example, are well known not only in our republic. The coefficient of efficient economic activity (computed on the basis of an analysis of support in the form of resources and the production results) over the course of a number of years testifies to the fact that efficiency at the farm is 30 percent higher than the average level. The sovkhoz has a highly developed production base, which cannot be said for two sovkhozes in Kharyuskiy Rayon -- Kungla and Vazalemma -- where the land is not very productive, resources in the form of manpower and fixed capital are limited and less use is made of fertilizers and concentrated feeds. Low yields and other indicators serve to confirm the low evaluations assigned for the work being carried out at these sovkhozes. And the fact that the effectiveness of use of the agroeconomic potential here is 10-15 percent higher than at other sovkhozes in the rayon is for some reason not mentioned. Moreover, this is understandable owing to the fact that criticism would be directed to the other better equipped farms, with the implication being that they are not making full use of their potential for increasing output.

Thus it comes as no surprise to learn that "strong" farms, in response to the recommendation for improving labor organization and particularly through the use of collective contracts, maintain that additional resources are required for raising output and that collective contracts should be employed in those areas where the production intensity is low.

If one bears in mind that a collective contract based upon intra-organizational accounting is aimed primarily at raising the return from resources, then where is it possible to expect great results from the introduction of this form of labor organizations -- there where there are fewer resources or, conversely, where there are more resources? However, it is scarcely possible to expect substantial progress in this regard if proper interest is not being displayed by the farm leaders and specialists.

In all probability, the time is at hand for changing the system for issuing material incentives to these categories of workers. In particular, this was mentioned recently during a Rakvereskiy Rayon party conference by the director of the Vinni Sovkhoz, Hero of Socialist Labor Kh. Kallaste. A large farm cannot develop endlessly through expanded production, that is, by means of additional resources. But an increase in output as a result of raised or improved efficiency requires greater effort and may not take place as rapidly as an increase in capabilities and, finally, it has a well known maximum "ceiling" under certain conditions.

Studies have been underway in our republic for a number of years now with regard to carrying out a comprehensive evaluation of the agroindustrial potential and the economic activities of kolkhozes and sovkhozes. The results of works and computations carried out by Ya. Praggi and Kh. Tiyvelya are being

used in all of the RAPO's /rayon agroindustrial association/ for differentiating the withholdings for the centralized funds and are familiar to all farm leaders. If the bonuses for leaders and chief specialists were determined based upon the coefficient for efficient economic activity, then these categories of workers would be materially interested in making more complete use of all resources. These coefficients are already being computed at the present time. Thus, such a change can be implemented in the absence of any great difficulties. However, in all probability objections will be raised by some leaders who have become accustomed to receiving large bonuses for having increased output. Nevertheless, unless this is done it will scarcely be possible to achieve success in introducing the collective contract into operations.

Considerable experience has already been accumulated in the republic in the use of collective contracts and intra-organizational accounting. But the number of contractual collectives has decreased and at times enthusiasm is being replaced by skepticism. What is the problem?

It was 10-15 years ago that many farm leaders attempted to introduce intraorganizational accounting. But the work turned out to be complicated and illegal, since the existing accounting system calls for internal farm accounting, mainly in natural indicators. And cost accounting implies a comparison of expenditures and income from a monetary standpoint.

An agreement for a collective contract which is based upon intra-organizational accounting and which lacks a definition of the limits for expenditures or intra-organizational accounting prices makes no sense whatsoever. Thus a system must be developed and legalized for accounting operations that will make it possible to account for the fulfillment of cost accounting tasks for primary labor collectives from a monetary standpoint.

The farm economists fear that this will lead to an increase in the volume of accounting work. But the conversion of a primary labor collective over to intra-organizational accounting and to collective wages implies a substantial reduction in accounting work for piece-work wages such that, in accordance with the estimates by specialists, the overall volume of accounting work is not increasing to any great degree.

However, the chief reasons for the unsuccessful introduction and rejection of the collective contract lie in the fact that quite often the contractual collectives include the best workers and equipment and improved incentive measures, while other subunits are deprived of such benefits. Such an approach provided the basis for statements which held that conditions were not available for introducing a collective contract into operations owing to shortages of equipment and other production resources.

Thus the chief goal of a collective contract -- achieving economies in the use of all resources and ensuring more complete use of them -- is not being achieved. In fact the situation is just the opposite. Why is this?

The recommendations for employing collective contracts call for the use of the job contract plus bonus wage system and progressive scales for the rates for products. But with the job contract plus bonus wage system, any increase in

output is viewed as being a product of live labor, subject to payment. The output can increase as a result of a large amount of materialized labor.

Bonuses for obtaining output over and above the plan or the achieved level stimulate a desire to lower the tasks and to obtain more productive equipment and other resources. Fine weather and reliable logistical support are of decisive importance for obtaining bonuses. For just as soon as a low yield is obtained, a machine breaks down or inclement weather sets in, a collective is deprived of its bonuses. In such instances it is more profitable to just sit idle with arms folded. Indeed, during such a year no bonuses are issued and the lower the yield the more the average indicator is decreased and it is this indicator that is used as the basis for the plan or for the planning scale for the following year. Thus, unstable production operations become advantageous and the situation should be just the opposite.

It is obvious that such an arrangement for stimulating a collective contract does not endure -- instead of savings, increases take place in expenditures and in resource deficits, wages are not kept in line with the products created by this labor and are dependent upon the weather and other random factors and instead of stable production instability is encouraged.

Hence, thought must be given to the development of stimuli which will change the direction of the interests, figuratively speaking, by 180 degrees.

Without going into the theoretical aspects, the following can be recommended for kolkhozes. The kolkhoz administration provides the primary labor collective with the land, equipment, buildings, livestock, feed, fuel, fertilizer and so forth, it organizes services and it "purchases" the products obtained. In accounting for the output, all expenses are deducted from the "price" and the difference is paid in the form of wages, including all types of additional payments and bonuses.

For each type of product in a cost accounting task, the limit for direct (principal) expenditures is calculated and it includes: amortization deductions, expenditures for establishing cultivated pastures and meadows; material expenditures (seed, fertilizers, feed, fuel, electric power and so forth) and services (motor transport, current repairs; wages with bonuses. This limit represents the intra-organizational accounting price, on the basis of which accounting for the products is carried out. General farm expenses should not be included in the accounting price, since the primary subunits are unable to influence their amounts. Hence the accounting price as a rule must be lower than the production cost, which is determined for a farm on the whole.

Since a contractual agreement is predicated upon voluntariness, if one of the parties does not agree to the conditions the agreement is not concluded (the transaction does not take place) and thus the intra-organizational prices for all practical purposes are established by "agreement of the parties involved."

The situation is somewhat more complicated at sovkhozes, since savings in expenditures are encouraged here in the form of bonuses amounting to 25 percent of the total amount of savings realized in field crop husbandry and 40 percent -- in animal husbandry. The wage fund is usually not sufficient for this purpose and the material incentive fund is also limited.

Sovkhoz workers are aware that the wage fund is not dependent upon savings being realized in expenditures and that this fund will be divided among them without substantial differentiation. In the complicated procedure of such dividing up, which is determined by the wage conditions, those individuals profit who select more advantageous work and thus additions take place. A shortage of manpower forces the leaders to raise the wages using various additional payments and bonuses, in the absence of a contract, and upon converting over to a contract the wage fund is not increased and only a well known modification of the rules for dividing up the money takes place. More earnings can be realized but only on the basis of another individual or one's comrade. This then, in very general terms, is the mechanism which is restraining the interest of the sovkhoz workers in employing collective contracts.

Thus a collective contract must be aimed at achieving economies in expenditures and interesting the collectives and each worker individually in cultivating more land with fewer labor expenditures, furnishing more products and realizing a greater return from the use of all production resources.

What recommendations can be made?

First of all, economies in expenditures per unit of output and improved production efficiency must be stimulated at all levels. A payment for realizing an economy in expenditures or a bonus for obtaining such an economy are essentially bonuses for having increased the yield of products.

Secondly, intra-organizational computations in accounting should be legalized based upon the law for the establishment of intra-organizational accounting prices (limits for all direct expenditures).

Thirdly, collective contracts based upon the consistent use of the cost accounting principle -- income -- expenditures -- payment for products -- should be introduced at kolkhozes and, based upon this experience, legalized for soykhozes.

Fourthly, the additional payments and bonuses employed apart from intraorganizational accounting should be abolished by stages.

From the Editorial Board: It is our opinion that M. Tamm has raised some extremely important problems in this article concerned with the problems of the economic mechanism of a collective contract in the rural areas, problems which unfortunately have not been studied adequately. The Editorial Board invites the leaders and specialists in agricultural production, scientists and all those desiring to express their opinions in these matters to accelerate the introduction into operations and to increase the return being realized from converting over to this progressive method for labor organization.

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# AGRO-ECONOMICS AND ORGANIZATION

# ESTONIAN ACADEMICIAN EVALUATES HUNGARIAN AGRICULTURAL DEVELOPMENT

Tallinn SOVETSKAYA ESTONIYA in Russian 17 Nov 83 pp 3-4

[Article by M. Bronshteyn, corresponding member of the Estonian SSR Academy of Sciences [AS], chairman of the ESSR Academy of Sciences Committee on the Economic and Social Problems of APK [Agro-industrial complex] Development: "The Experience of Friends: Development of Agriculture in the VNR [Hungarian National Republic]"]

[Text]

"What is the Hungarian experience in agricultural development? Can we utilize it in our republic?" (Lecturers and propoganda workers of Tallinn, Tartu, Kingiseppskiy Rayon).

The author of this article had the opportunity to study the experience of agricultural development in Hungary as part of a delegation from the USSR Academy of Sciences. The successes of the agrarian sector of the Hungarian economy are impressive. During the last 15-20 years Hungary has moved from 11th-12th place in the production of agricultural products per capita to second place in the world (following Denmark), and in pace of development it is first in the world (approximately doubling its production). In Hungary per capita production of grain equals 1,300 kilograms and of meat-146 kilograms. The yield of wheat has increased from 17 quintals per hectare in 1961 to 47 quintals in 1980; the yield of corn has increased from 25 to 53 quintals per hectare, and in 1982 a record harvest was achieved--68.6 quintals per hectare. From a country that imported its food Hungary has turned into a great exporter.

Our Hungarian comrades explain these enormous successes by the following:

1. The socialist transformation of small peasant farms on the basis of the Leninist cooperative plan; 2. The improvement of the economic mechanism in the economy's agrarian sector; 3. The organic coordination and integration of extensive public production with private plots and auxiliary enterprises belonging to village workers.

Let us examine these more closely.

# 1. The Socialist Agrarian Structure

Until 1945 Hungary was an agricultural country that was greatly hampered by feudal remnants. Almost one-fourth of the entire area belonged to 1,000 large landowners and 36 percent of the peasants were landless day-laborers and farm-laborers. After the land reforms of 1945 the large landowners and capitalist form of land management were eliminated and there arose 400,000 new small peasant farms. But although almost half of the population was involved in agriculture, small farms could not provide peasants with an adequate standard of living and the country with the necessary foodstuffs.

In 1959-1961 agricultural collectivization took place in Hungary. At the end of 1980 in Hungary there were 132 state farms and 1,338 agricultural cooperatives. The socialist sector, including the private plots of members of cooperatives, occupies 93.6 percent of all lands and yields 89.7 percent of all agricultural development in the country. The large public sector directly produces two-thirds of the total volume of agricultural products and the private sector (in cooperation with the public, which will be discussed further)--one-third.

The socialist transformation of small peasant farms created the necessary conditions for the utilization of modern techniques and technology and the cost of fixed agricultural capital increased by a factor of 2.7 over a period of two decades. This enabled them to significantly raise labor productivity and to increase the standard of living of the Hungarian peasants. It is characteristic that the doubling in the output of agricultural products was achieved at a time when the proportion of the population involved in agriculture was decreased by more than half. The appearance of the Hungarian village changed radically. Modern houses with all the modern conveniences, built during the last decades, comprise the bulk of the housing fund. In 1981 the average monthly income of an agricultural worker in public production was 4,074 forints (about 240 rubles).

# 2. The Administrative Mechanism

The socialist system of agriculture cannot develop successfully without the planned state management of production, economic and social processes. Its basic link is centralized planning.

Hungary's state planning organs give special attention to the elaboration of balanced five-year and annual plans for the development of agriculture and related branches, including basic indicators and taking into account the main tendencies and proportions within the country and in foreign markets. These plans in the form of mandatory goals reach right up to the central administrative organ. On the republic level such an organ is the ministry of agriculture and the food industry. Encompassing essentially the entire food complex of Hungary, the ministry secures the integral management of the production and processing of agricultural products.

Here we come to yet another unique aspect of the agricultural administrative mechanism in Hungary. Central planning organs and the ministry do not give

enterprises directives on planned quotas. Agricultural organs work out their own plans for development, sell their own products and make contractual agreements with state or cooperative procurement organizations. They build their relations with supply and servicing organizations on the same basis, thereby having the opportunity to select economic partners. The high degree of economic independence determines the correspoiding high level of economic responsibility of economic units. State farms and cooperatives are involved in complete cost-accounting. They must earn the resources that are essential for securing the process of reproduction, including wage payments and savings. The state finances important programs only partially. It is obligatory that credit be repaid and is is issued at a fairly high percentage rate (14 percent).

But does such a "commercial" approach undermine state planning; doesn't it lead to the development of market problems? Hungarian managers decisively answered, "No!" Cost accounting makes agricultural enterprises especially sensitive to the level of prices for agricultural and industrial products, to the conditions under which credit and financial privileges are issued, to tax policies and so forth. All of these economic keys are held firmly in the hands of the state. Hungarian specialists assured us that the central administrative organs are more successful than previously in achieving necessary plan balance and in influencing the economic interests of agricultural and service enterprises with the aid of economic regulators.

What regulators are these? First of all there is planned price establishment. The state establishes firm wholesale and retail prices for the most important types of agricultural products and foodstuffs regardless of who procures and sells the products. For some types of products price limits (maximal and minimal) and freely negotiable prices (basically for early vegetables and fruits) are established. Firm prices encompass 60 percent of total agricultural production, including grain, sugar beets, meat and dairy products, wool and vegetable oil.

In planning prices, the state considers not only production expenses and demand for given products but also actively influences the structure of production and demand. In the opinion of specialists, in Hungary a not wholly efficient structure of food consumption has arisen—Hungarians traditionally use few dairy products—at a rate 2.5 times smaller than Estonians. In order to change the structure of production and consumption the state establishes advantageous prices for dairy products for consumers as well as producers. It should be noted that enterprises know ahead of time the level of prices and the possible changes and can alter their production plans in accordance with these factors. If basic differences develop between the plans of the state and of the agricultural enterprise (they are compared annually by the ministry of agriculture and the food industry) additional regulatory measures are instituted. But as a rule these deviations are not great.

In addition to planned price formation an important element of economic regulation is the system of state subsidies. These subsidies can take the form of costs or state participation in the financing of certain programs and objects. One type of subsidy is firmly established and differentiated

according to land values and takes the form of rent bonuses in the price. We should note that in Hungary a system of uniform procurement prices based on average conditions in the country is in effect. Rent bonuses to prices compensate for increased expenditures related only to relatively poorer (in comparison to the country's average) soil-climatic conditions. For this reason they are available only to enterprises in which land has been evaluated at below average in the republic, regardless of the results of economic activities.

Above it was stated that all agricultural enterprises—corperatives and state farms—are involved in total cost accounting. But the state covers from 20 to 40 percent of expenditures for the building of storehouses, shops, hothouses and livestock facilities and up to 70 percent of the cost of reclamation operations.

The tax system occupies an important place in the mechanism of agricultural management. Its goals include more than just the development of the income portion of the state budget. The tax system is called upon to regulate the income of agricultural enterprises in accordance with real labor input and to direct them toward a more effective utilization of land and labor resources. Thus, in addition to a general income tax levied according to progressing rates from gross income, there is supplementary tax on non-agricultural operations, a land tax and a tax on wages.

Hungary's cooperatives and state farms are quite extensively involved in production and non-production (service sphere) activities of a non-agricultural nature, which brings in about up to one-third of their income. In order to regulate the volume of these operations (they must be service-or ented and facilitate a better utilization of labor resources) an additional tax (up to 20 percent) has been introduced to be levied on income obtained in the non-agricultural sphere.

The land tax is fixed according to an evaluation of land rates (from 0 to 1,800 and more forints per hectare). This tax, having the character of a rent payment, is called upon to equalize economic conditions in enterprises and to raise the economic responsibility of enterprises for the effective utilization of land resources and primarily for lands having a high natural fertility.

Taxes on the fund for wage payments are of special significance. In Hungarian agriculture the contract-bonus wage system predominates, with a fairly extensive use of various forms of contracts. Sixty to 80 percent of wage payments are made according to centrally-determined rate scales for work performed and 20-40 percent of payments are made according to the final results of labor. This includes the portion of profits that is used for bonus wages. The social security tax is levied at a rate of 20 percent of the fund for wage payments. If the annual growth of average wage payments exceeds limits established by the state (1-5 percent) an additional tax is levied, and it can equal the total growth in wage payments above the given limits. There is also a relatively strict regulation of the level of wages, which is established according to real production growth and real growth of market funds.

It should be noted that in Hungary special significance is attached to balancing the financial and commodity masses as an important element in stimulating production and labor activity. This balance is achieved by the corresponding regulation of prices and wages. Thus, having considered the increased expenses in agricultural production resulting from higher prices for fuel, energy, mineral fertilizer and technology, the Hungarian government raised procurement and retail prices considerably, securing a satisfactory selection of food and other commodities in trade. The increase in prices was compensated for by the growth in wages primarily for workers receiving low and average wages.

# 3. Production Systems

In Hungary, as in other socialist countries, there is a continuation of the process of collectivization of agricultural production on the basis of the development of inter-enterprise cooperation including enterprises of the cooperative and state sectors. Inter-enterprise associations, which number 700 in Hungary, are built on an integration basis. This means that every member of the association retains economic and legal independence and joins the association voluntarily if this is materially advantageous to him. First inter-enterprise building organizations began to be formed, followed by mixed-fodder plants, inter-enterprise livestock raising farms and enterprises for the processing of agricultural products. In Hungary there are territorial as well as inter-enterprise associations.

One of the most interesting and rapidly developing forms of inter-enterprise associations is the so-called production system. What are its characteristics? In Hungary, as is the case here, there has developed a considerable differentiation in development conditions of enterprises. There are economically-strong enterprises that utilize modern techniques, technology and production organization. And next door there are frequently weak and lagging enterprises. The strong worked basically for themselves, increasing their income and funds. The weak lagged behind more and more. Previously this problem was dealt with (as here) by merging weak and strong enterprises. But as a result the material interests of strong enterprises were undermined and in addition excessively large cooperatives or state farms began to be poorly managed--visible mutual responsibility was lost. The idea developed to make the economically strong enterprise the integrator of the inter-enterprise association with the goal of introducing progressive technology and production organization in lagging enterprises for a mutual advantage.

Such associations are called the production system. In Hungary there are over 70 of these. A system usually encompasses a single branch or several branches. The head enterprise supplies other member enterprises of the production system with the necessary technology and sowing and breeding material, organizes repairs and technical services and so forth on a contractual basis and for a certain payment. This form enabled us to rapidly introduce the most effective production methods and to pull up lagging enterprises under mutually advantageous conditions.

Let us look at the production system as it exists at the Babolna Enterprise. It organized the industrial technology for cultivating corn from the development of hybrid varieties to the production of a "train" of special machines (together with the Raba Plant) that encompassed, together with partners, up to half a million hectares of crops. In 1982 the entire area yielded an average of 78.6 quintals per hectare, including 90 quintals per hectare in the head enterprise and 83 quintals per hectare in the previously lagging Ereglak State Farm, which is several times more than it produced prior to the creation of the production system. Having reached new heights, the Babolna pulled weak cooperatives and state farms up to a higher level.

The production system is being developed for other forms of production as well--wheat, sunflowers, sugar beets, pork, milk, poultry meat and eggs.

### 4. Public and Private

Statistical data attests to the fact that the private sector plays an important role in agricultural production output in Hungary. The total number of private enterprises, including orchards and vegetable gardens belonging to city dwellers, reaches 1,400. They produce up to one-half of the vegetables and fruits and about 40 percent of livestock products produced. On this basis some Western specialists are trying to link the success of agriculture in Hungary with the "rebirth" and "advantages" of private production. But reality disproves these fairly superficial concepts. The success of the private sector is possible only on the basis of its close cooperation with public production. In Hungary there has developed a very reasonable and economically-sound cooperation between the public and private sectors. The production of grain and consequently of feed is almost totally concentrated in the public sector. It supplies the private sector with feed, breeding material and technology on a contractual basis and according to a schedule; it provides transportation, veterinary services and processing of products on the same basis. The private sector, having certain reserves in the area of the work force (the labor of housewives, retirees, schoolchildren and the free time of members of cooperatives, workers and employees) produces only those products that are relatively effective within a framework of manual labor and a small degree of mechanization.

Hungarians disagree when private plots are called private. In essence this is a domestic section of public production—the family detachment which enables us to more effectively utilize all resources of the work force and yard facilities, to obtain a considerable quantity of supplementary products and income, and to provide the new generation with teaching concerning work. It should be noted that a mandatory condition for receiving a private plot is active participation in public production—working no fewer than 2,500 hours (1,500 hours for women) per year in a cooperative or on a state farm.

Let us draw some conclusions. How should we evaluate the Hungarian experience in the development of the agrarian sector? The author had occasion to come across the most varied and at times extreme evaluations—the complete denial of the possibility and the proposal to fully and as quickly

as possible introduce the same mechanism under our conditions. Let us discard the extremes. The 26th CPSU Congress gave a positive evaluation of the Hungarian experience in organizing agricultural production. Comrade Yu. V. Andropov pointed to the necessity to study and utilize the positive experiences of socialist countries during his speeches at the November 1982 and June 1983 plenums of the CPSU Central Committee. But what is required is a creative approach with a consideration of specific conditions.

We are interested in the Hungarian experience primarily from the point of view of reorienting the economic mechanism toward having each economic link search for and find economical and resource-sparing ways to develop agricultural production.

It would appear that elements of the Hungarian economic mechanism such as the complete management of the foodstuffs complex, strengthening cost accounting responsibility within the framework of clearly delineated planeconomic norms and the organization of close cooperation between the public and private sectors are totally suitable to our conditions. The decisions of the May 1982 Plenum of the CPSU Central Committee were oriented in this direction. I feel that in our republic we could find leading enterprises that could direct their skill and initiative toward introducing their neighbors to modern technology, methods and production organization. But all of this must occur, naturally, with a consideration of the specific conditions in each region of our expansive country and with a thought-out and goal-oriented preparation of each subsequent step. It should be noted that even our Hungarian comrades needed about 8-10 years to thoroughly master the entire arsenal of economic management. The experience amassed by socialist countries is our collective achievement which must be studied and skilfully utilized with a consideration of the unique features of each country while realizing a common goal--developing a thriving and highly effective economy for the good of man.

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### AGRO-ECONOMICS AND ORGANIZATION

### ACCOUNT OF PRIVATE PLOT ORGANIZATION IN HUNGARIAN CULTURE

Moscow EKONIMIKA SEL'SKOGO KHOZYAYSTVA in Russian No 11, Nov 83 pp 57-59

[Article by Aleksandr Kalmanovich Almashi, candidate of economic sciences, director of the laboratory on agricultural economics, VNR [Hungarian People's Republic] Transcarpathian State Agricultural Testing Station: "The Organizational Foundations for the Integration of Private Plots Belonging to the Population in Hungary"]

[Text] In Hungary one of the leading branches of the national economy is agriculture. Soil-climatic conditions in the country facilitate the highly-effective management of agriculture. As a result of the dynamic development of agricultural production in the 1970's Hungary has joined the ranks of the leading countries of the world with regard to a number of indicators—the productivity of wheat and sugar beets, increase in the live weight of one head of cattle or one hog and milk yield per single forage cow. According to preliminary data, in 1982 per capita grain production equalled 1,377 kilograms; meat production—153 kilograms; and eggs—420. In addition to fully satisfying the needs of the country's population for basic foodstuffs, over 30 percent of agricultural products are exported by Hungary in fresh or processed form.

The main producers of agricultural products in Hungary are large agricultural enterprises—state farms and agricultural production cooperatives. In 1981 they produced 15 and 49.9 percent of total gross agricultural production in the country; production from private plots belonging to the population comprised 35.1 percent of the total, including farm products—26 percent and livestock products—44.7 percent. According to accepted terminology in Hungary, the private plots of cooperative members and of workers and employees are called small industry or the private sector (in contrast to the large public sector) of agriculture. In some cases the private sector includes remaining individual peasant farms, which occupy only 1.5 percent of the entire agricultural area of the country and which produce only 1-2 percent of total gross production of the branch.

The relatively high proportion of products from private plots in total agricultural production, greatly surpassing the proportion of lands in the country (13.2 percent) is based on the high degree of organization of the activities of private plot owners and on the integration of private and

public enterprises on the basis of a division of labor between them. Within the farming branch the production of grain and industrial crops and feeds is concentrated on state farms and in agricultural production cooperatives (the proportion of these types of products in total production volume in the country reaches 85-95 percent) and the production of vegetables (57.6 percent), fruits and berries (53.3 percent) and grapes (61.6 percent), in other words of items that provide a large product output (in terms of cost) per unit of area, is concentrated in private plots and auxiliary enterprises. In the process of integration, agricultural enterprises supply private plots with seedlings of vegetables, fruits and grapes, help to cultivate perennial crops and organize the procurement and sale of products.

A greater effect on total production results from the development of livestock raising on private plots by means of feed supplies coming from state farms and cooperatives and from procurements within the system of state and cooperative trade. Concentrated in agricultural enterprises, where the work to cultivate feed crops and procure feeds is fully mechanized, is 93.4 percent of the total production volume of coarse and succulent feeds and over 90 percent of the total grain forage produced. Private plot owners are spared manual labor; they are occupied with the care of livestock and fowl, i.e. with the production of animal products.

At the same time even in the branches of livestock raising a division of labor between the private and public sectors has been noted. Cattle raising and sheep raising are developing primarily in large agricultural enterprises. In 1981 production volume output in them comprised 71.2 and 78.4 percent for these branches respectively. Private and auxiliary enterprises are developing hog raising and poultry raising. In 1981 they provided 58.8 percent of the total number of hogs directed for slaughter, 48.6 percent of the total poultry meat and 64.1 percent of the total number of eggs procured in the country as a whole. The specialization of private plots in branches of livestock raising that require the consumption primarily of concentrated feeds makes it easier to supply these enterprises with feed from large agricultural enterprises because it is not necessary to transport and store large volumes of feed in farm yards.

At the present time we can distinguish between three types of private plots in Hungary. A certain contingent of the population, primarily the proprietors of auxiliary enterprises from among workers and employees, work their plots as a form of relaxation and the products produced by them (fruits, vegetables) usually find their way to the family table. In a relatively large number of private plots and auxiliary enterprises the goal of agricultural production is to increase food supplies for the family itself; only surplus food is sold. The owners of private plots in this category raise all the food they need for themselves, which is an important factor in balancing the family budget. According to some calculations, over 60 percent of private plots have the clearly delineated features of commodity producers. They specialize in the production of one or two products for sales purposes. The basic motivational force for the owners of commodity-producing private plots is the striving to bring in additional income by means of additional labor. Whereas in most socialist countries the basic function of private plots is to raise the level

of self-sufficiency of the village population with regard to foodstuffs, in Hungary's private plots belonging to the village and city populations the production of agricultural products for sales purposes, i.e. small commodity production, is developing at a rapid pace.

In the process of organizing and integrating small commodity production the ties between agricultural enterprises and the owners of private and auxiliary enterprises underwent considerable changes. They are manifested now in various forms depending on the degree of integration of private plots.

The ties between agricultural enterprises and private plots can be based on contracts for the purchase and sale of agricultural products. In this case private plots function on an individual basis, the material-technical production conditions in them are created by their owners, and a portion of the agricultural products produced by them are sold to state farms or production cooperatives according to contracts. Since in Hungary the internal market for food products is full and there are no competetive prices as on a free market that exceed official retail prices of state and cooperative trade by several times, small commodity producers are interested in a firm market for their products, one that is guaranteed according to agreements. Under such a form of cooperation, agricultural enterprises which are only the buyers of products have little influence on the course of production development on private plots.

Another form of interrelations between private and public enterprises in Hungary is partial integration. The important element in such ties is the fact that state farms and agricultural cooperatives supply private plots ahead of time, before the beginning of the production process, with seeding material and seedlings for fruit crops, vegetables and feed as well as with pedigree livestock and fowl. They also provide production services according to contracts that deal with the sale of products that are produced using resources supplied and through public enterprises in the established quantity and quality. In contrast to the reciprocal supply of, for example, feed for the sale of livestock, the system of creating production conditions for agricultural products ahead of time imparts an organized nature to the activities of the private sector and facilitates the planning of production volumes there. With this form of interrelations between the public and private sectors of agriculture commodity production on private plots becomes a priority goal. The owners of plots who participate in the production process with their labor (and the labor of their families) are greatly dependent upon the organizerintegrator who is interested in the production of one type of product in large quantities.

A third form of relations examined by us is full integration, in which in addition to the organization of the activities of private producers on the basis of supplies to them of the means of production from agricultural enterprises there is also a supply of technology utilized by large agricultural enterprises to the private plots. A characteristic feature of such integration is that the material resources and livestock for raising and fattening, etc. usually remain the property of the agricultural enterprise-integrator. Private plots act as a house branch of the public sector, specializing in the production

of certain types of agricultural products. The labor of owners of private plots which is performed as overtime is considered a domestic form of public labor and is taken into account in establishing an average annual fund for wage payments to the private worker in order to calculate his benefits in the event of temporary inability to work, his pension, and so forth. The operations of private plots are planned. The volume of production and sales of products established by them are reflected in the production-financial plans of agricultural enterprises since integrated private plots are considered to be an integral part of public production in cooperatives and on state farms.

It should be noted that in the first two types of relations private plots are independent with regard to taxation (they pay land income taxes if receipts from sales of products exceeds 150,000 forints per year) and in the third taxes are levied on private plots through the agricultural enterprise-integrator.

The tendency toward the development of production output in private plots primarily for sales purposes has been confirmed by the maintenance and in some cases even by an increase in the proportion of products from the private sector in total agricultural commodity production in Hungary. Thus, in 1981 as compared to 1976 with an increase in the sales volume of vegetables (by 28.6 percent), fruit (without apples)—by 24.2 percent, wine—by 15.1 percent, hogs (live weight)—by 8.3, and poultry meat—by 107.7 percent by private plots, the proportion of these products in total commodity production in the country increased respectively by 2.8, 6.4, 0.1, 0.4 and 3.1 percent. The sales volume of eggs produced in the private sector and their proportion in total commodity production in the country decreased by 29 and 2.4 percent respectively during this period.

In 1981 in Hungary there were 760,000 private plot members of cooperatives having 421,000 hectares of agricultural lands at their disposal and over 800,000 auxiliary enterprises of workers and employees whose total agricultural land area equalled 340,000 hectares. There are a total of 4.4 million people involved in private plot production, or every other resident of this country.

The livestock raising facilities of private plots house 1.4 million head of cattle and 6 million hogs. In order to house such a number of animals on farms and in complexes of state farms and agricultural cooperatives according to our calculations we would need 110-120 billion forints of capital investments to build facilities and supply equipment; this is equivalent to the amount that was invested in the development of agriculture in this country during the years of the 5th Five-Year Plan (1976-1980). On private plots 2.2 billion hours, or about 10 percent of annual work time in the country's entire national economy, are expended for producing agricultural products. If these expenditures were to be realized in the public sector of agriculture it would be necessary to recruit another 300,000-320,000 people to perform additional jobs if we consider various levels of labor productivity in large and small enterprises (in 1981 there were 984,000 persons involved in agricultural enterprises, comprising 19.6 percent of the gainfully employed population).

The traditional administrative organs in the private sector of agriculture are committees on private plots and auxiliary enterprises that are created within the framework of agricultural enterprises. Committee members are selected from people working on state farms or from among members of cooperatives. Committees, with the participation of specialists, coordinate the activities of private producers, represent their interests and act as middlemen between the owners of private plots and the management organs of enterprises. At the present time such committees are in operation in all 1,320 agricultural cooperatives and on most state farms.

In a number of agricultural enterprises questions of production organization and administration on private plots are dealt with by a specialist from the state farm or cooperative (agronomist, zootechnologist, veterinarian, and so forth).

In connection with the specialization of private plots to produce a certain type of product, primarily a commodity product, there is also an implementation of specialization of workers involved in the organization and administration of production on private plots. The management of the work of private-plot owners is implemented by specialists of state farms or cooperatives according to two variations. In the first (branch) the agronomist-vegetable farmer organizes the production of hothouse vegetables or vegetables grown in the open, the agronomist-horticulturalist organizes the production of fruit, berries and grapes and the zootechnologist (or veterinarian) organizes the production of animal products. In the second management is implemented according to operations processes of small commodity producers, that is, the specialist-supplier directs the delivery of the means of production, the agronomist or the zootechnologist directs the production of vegetables, fruit, berries, grapes or livestock products and the marketing specialist organizes the sale of products coming from private plots. Specialized small commodity-producing enterprises are usually an integral part of public production in agricultural enterprises.

A special form of organization of the private sector in Hungary is the specialized group of commodity-producing private plots of a single profile. In this case the agricultural enterprise-integrator has ties not with each private plot but with a specialized group of such enterprises which is a single production unit. In order to manage its activities a committee is being created from representatives of private plots included in the group. In some cases the specialized group has its own production means. In 1981 there were 201 specialized groups functioning within the framework of specialized state farms and cooperatives.

In addition to agricultural enterprises, in Hungary the sales-supply organization (AFES) acts as an integrator of private plots. Over 4,400 persons from the AFES apparatus are involved solely in questions of production organization on private plots and of sales of their products. They mnnage the work of 2,581 specialized groups. The number of members of such groups reaches 203,000 persons. These are residents of villages and cities. The cost of fixed means of production of specialized groups was 225 million forints. In 1981 specialized groups sold 3.8 billion forints' worth of commodity products through AFES.

The plan for the development of Hungary's national economy in 1981-1985 (for the 6th Five-Year Plan) calls for increasing production of agricultural products in all categories of enterprises by an average of 12-15 percent as compared with levels for the 5th Five-Year Plan. For the first time plan goals for increased production in the public sector of agriculture are not being imparted. The development of production in the private sector, which is not characterized by large material expenditures, is an important factor in raising the effectiveness of agricultural production as a whole in Hungary in view of the deterioration of conditions for agricultural production arising from the rapid rise in costs for technology, industrial materials and energy as compared to prices for agricultural products.

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### REGIONAL DEVELOPMENT

PROGRESS, POTENTIAL OF TOMSK OBLAST AGRICULTURE DISCUSSED

Moscow SEL'SKAYA ZHIZN' in Russian 3 Feb 84 pp 1-2

Article by V. Lesik, Tomsk Oblast: "Tomsk Acceleration"/

/Text/ A developed agrarian base for the eastern regions. The planned conversion of agriculture over to an industrial basis is making it possible for Tomsk Oblast to solve successfully the task of self-support in the form of a broad variety of farming and animal husbandry products.

Tomsk Oblast is known throughout the entire country as a Siberian kray, a taiga kray, a kray of oil workers, chemists and machine builders and a kray of scientists and students. Its economy has been developing at an especially rapid pace in recent years. This circumstance has greatly complicated the task of land workers and agricultural workers in this region. Despite the severe Siberian conditions, they must supply the oblast with a reliable food base. It was only recently that many were convinced that it was practically impossible to achieve this. Thus the oblast received "legal" assistance from the side -- in the form of vegetables and fruit, meat and grain, potatoes and eggs and other products.

However, over the past 2 years reports have been received indicating that Tomsk Oblast is selling potatoes, rabbage, carrots, beets, hothouse cucumbers and even eggs and broilers to both hear and distant regions of the country. It was difficult to believe these reports. Nevertheless they were true and the surplus products which appeared in the oblast were the result of persistent and purposeful work carried out by the oblast's party organization in fulfilling the decisions handed down during the 26th CPSU Congress with regard to bringing about sharp improvements in agriculture.

After browsing to my heart's content through the stores of Tomsk on cold January days, the counters of which were well stocked with a variety of milk and dairy products, poultry meat and eggs, potatoes and vegetables, I paid a visit to the oblast party committee.

"In commencing the new stage in the industrial development of the oblast and in preparing for unprecedented technical progress, we decided at the time to examine all of the possibilities in the interest of ensuring that such progress was properly supported on all sides" stated the secretary of the oblast's

committee for agriculture Aleksandr Semenovich Zarembo, "Nor did we limit our thinking to just the metal, equipment or other items. In addition to the new industrial regions, the decision was handed down to create a large agricultural base. Difficulties were encountered in implementing this decision and carrying it out using the traditional method; it was necessary to once again create industrial agricultural production.

Importance is attached to remembering this particular term -- industrial! For it was precisely the industrial work methods of various traditional and even ancient branches of agriculture that produced success and gave rise to today's inevitable growth difficulties. I hope that this same subject will be raised in a subsequent discussion.

But for the time being... Together with the 2d secretary of the Tomskiy Rayon Party Committee, Valeriy Ivanovich Kabanov, we visited the unique epicenter of a new industrial village in the oblast -- the settlement of Svetlyy, or more accurately the three complexes which it includes and for which it supplies the required manpower.

These complexes -- the Kuzovlevskiy Hothouse Combine, Mezheninovskaya Meat Poultry Factory and the Tomskiy Swine Raising Complex -- were built almost simultaneously using the national construction project method and with the assistance of many construction and industrial enterprises, municipal organizations and student detachments. The erection of these facilities served as a clear example of what can be accomplished on the basis of a concentration of labor efforts and capital investments. The fact that all three installations, even while still under construction, commenced furnishing products and supplying the tables of the workers with vegetables, poultry meat and pork is especially impressive.

For example, here is what the director of the Kuzovlevskiy Hothouse Combine, Nikolay Stepanovich Zhul'yev, had to say: "We have still not placed all of our capabilities in operation and yet we have already produced vitamin products. We immediately master a new group of hothouses just as soon as they are turned over to us by the builders. This tends to motivate the builders and it also stimulates the vegetable growers. The construction of the combine began in 1977 and before a year had passed we had already supplied the trade network with the first 730 tons of vegetables. Subsequently -- 3,000 - 4,000 and last year -- 6,600 tons. Once the combine is completely in operation (30 hectares under glass), in accordance with the scientific norms there will be 1 square meter of garden space under glass for each resident of the oblast. Last year, a total of 6,875 tons of hothouse vegetables were grown in Tomskiy Rayon alone. This is three times more than in 1978, two times more than the annual average for the Tenth Five-Year Plan and almost nine times more than the annual average for the Ninth Five-Year Plan. Hothouse products produced at Tomsk have even begun appearing in Novosibirsk and Kemerovo oblasts."

Simultaneously with the construction of the combine, increases took place in the numbers of hothouse workers and specialists.

Similarly, the production of poultry meat at the Mezheninovskaya Broiler Factory was mastered while the construction work was in progress. Its director,

Vladimir Yemel'yanovich Portnov, recalls: "The first workers at our installation appeared in 1976. At the end of 1 year, they had placed in operation a reproducer for 37,000 laying hens of a parental herd and an incubator and by April 1978, in addition to high quality eggs, we had produced 480 tons of meat. With the placing in operation of the remaining installations - there are approximately 100 of them -- the factory will produce 9 million broilers annually -- 12,500 tons of meat. This year alone we will supply the consumers with approximately 8,000 tons of dietic products."

By making extensive use of accumulated experience, one of the largest swine fattening complexes beyond the Urals, the Tomskiy Complex, was erected here.

"The plan required a considerable amount of work, especially with regard to the purification installations (initially they were not even called for), a reproducer (in its absence, swine had to be purchased from 36 farms and this resulted in several instances of extensive illnesses among the animals) and the repair service (it had to be created)" stated the director of the complex, Petr Petrovich Koshel', "When all of the capabilities have been mastered, we will produce 12,500 tons of bacon meat annually. Last year more than 5,000 tons of pork were produced during the first phase. The profit amounted to 3 million rubles. This was not very much and yet it was the very first profit. Up until this time, we were familiar only with losses. Further work is required on the industrial technology and it must be carried out in a very serious manner. Unfortunately, the meat production line is not always operated in an efficient manner. Last summer, the meat combine forced us to hold onto a considerable number of swine for too long a period.

Despite a number of objective difficulties, which are discussed below, the placing in operation of the first phases of the poultry factory and the swine complex made it possible for Tomskiy Rayon -- the oblast's main agricultural zone -- to increase its production and procurements of meat by more than twofold compared to 1979 and by threefold compared to the Ninth Five-Year Plan.

It bears mentioning that the Tomsk workers are striving to intensify their production of grain based upon improvements in their farming culture, in the interest of being able to satisfy more completely their own requirements for mixed feed. A great amount of work has been started in connection with mastering rich deposits of peat, to be used for composting and improving the fertility of the arable lands.

Radical improvements will also be achieved in the production of potatoes and vegetables on open ground through the efforts of the oblast party organization. And here important roles will be played by farm specialization, the introduction into use on the farms of industrial technologies for the cultivation of crops, the team non-schedule system of labor organization and cost accounting. The Tom', Stepanovskiy, Chernorechenskiy, Baturinskiy, Molodezhnyy, Rodina and a number of other sovkhozes have become the chief suppliers of potatoes and vegetables, the production of which over the past 5 years has increased by factors of 2 and 1.5 respectively. By expanding their irrigated lands and completely mechanizing their labor, the personnel operating under the severe Siberian conditions began obtaining yields which were envied by specialists in the southern and western regions where gardening has age-old traditions. And

as a result -- the oblast not only terminated the importing of many types of vegetables and potatoes, but in fact it even began shipping vegetable products and potatoes to Siberia, the Far East, Kazakhstan, Uzbekistan, Kirghizia and even to Kharkov.

Against the background of the sharp increase that has taken place in the production of meat, eggs, potatoes and vegetables, the solution for the "dairy problem" appears to be much more modest. But even here a stable positive trend is being observed.

Milk is a special product. It cannot be retained for very long on a farm, nor can it be shipped over great distances. During the spring and autumn periods of bad roads, shipments by air transport -- helicopters -- must also be carried out here. However, less and less use is being made of this emergency measure. Modern "dairy zones" have appeared in many rayons throughout the oblast. With each passing year, an increase is taking place in the number of highly mechanized animal husbandry farms. A great amount of attention is being given to breeding work.

Special emphasis is being placed upon developing the feed base. It bears mentioning that the experts in this region have made a unique contribution -- three floating plants for the production of grass meal are operating successfully on floodplain meadows in the northern part of the oblast. This year a fourth such floating plant will be placed in operation.

A portion of the farm's meal is sold to the state in exchange for mixed feed. For example, Aleksandrovskiy Rayon obtains almost one half of its mixed feed on the basis of grass meal deliveries.

But quite properly the personnel consider the chief reserve for dairy animal husbandry to be the intelligent and efficient organisation of labor for the farm workers. The introduction of a flow line-departmental system, brigade contracts, the strict observance of discipline, the organization of a lively socialist competition and maximum satisfaction of the requirements of the livestock breeders -- such are the levers available for further improving dairy production.

There is a saying among the people: "Those who do nothing do not make mistakes or encounter difficulties." As already mentioned, the workers in the Tomsk rural areas are pursuing a high goal -- the conversion of agricultural production over to an industrial basis. Only this will provide the solution for many problems, especially in view of the Siberian shortage in workers. The oblast is able to support itself in terms of many food products -- in this respect it serves as a fine example for other oblasts. But special and strict laws apply in industrial production. It can perform efficiently if all of the production elements have been properly organized.

And here it must be stated that not all of the agricultural partners are prepared to speak an "industrial" language. Last year the mixed feed industry workers did not supply the required feed on a timely basis -- and the Mezheninovskiy Poultry Factory experienced problems (it did not supply sufficient meat, a brigade contract was "broken" and its economy was

disturbed). The supplier was slow in supplying the metal and glass and frost accumulated on the hothouses of the Kuzovlevskiy Combine. The meat combine did not adhere to the work schedule -- and at the Tomsk Combine the animals were forced into fattening up to 170 kilograms, consuming feed to no purpose and losing quality. The builders of the purification installations worked in a slipshod manner and production generally came to a standstill -- a great amount of effort was required in order to once again achieve a lively rhythm.

A strong requirement exists for reevaluating the supply system for providing industrial agricultural installations with logistical resources and spare parts. They are still being allocated in minute amounts. Enterprises in Tomsk Oblast are producing electric motors, pumps, cable and other products and still the complexes and large sovkhozes are obtaining them, on the basis of orders, from other oblasts and republics. Is this really a thrifty system?

Installations for the processing, storage and sale of products have become a serious obstacle with regard to further increasing agricultural production at a base that has already been created and is gaining in strength.

"Inspect our broilers at the time they are slaughtered and when they are on the store counters. The difference is like night and day! From well-fed, healthy looking and attractive products, they are transformed within a matter of hours, owing to an incomplete processing cycle and improper storage, into dry, "blue-tinged" poultry" complained the director of the Mezheninovskiy Poultry Factory Vladimir Yemel'yanovich Portnov.

His words were repeated by a neighbor, the director of the Tomsk Swine Complex Petr Petrovich Koshel':

"Last year, for a variety of reasons, we made many swine and young pigs available for forced slaughtering or, as the specialists say, specialized slaughtering. Owing to the fact that the complex does not have a processing department or a refrigeration unit, almost one half of these animals were used immediately. And indeed this was meat that was in short supply! In the majority of instances -- baby pigs. A delicacy! Thanks to the meat combine: they began accepting carcasses weighing more than 5 kilograms, whereas up until recently young pigs weighing less than 20 kilograms were used as utility refuse."

"Once vegetables began being supplied from open ground, many of the hothouse products were at best used for feeding to the livestock and quite often they were even delivered to the dump. And indeed these products can be used for producing various types of canned goods and salads" complained the director of the Kuzovlevskiy Hothouse Combine Nikolay Stepanovich Zhul'yev, an elder among the Tomsk hothouse workers and an initiator of new endeavors within the oblast."

The final stage of the vegetable and potato route from a field to the consumer is a sad one. Together with the deputy general director of Tomskplodoovoshchkhoz Nikolay Alekseyevich Shnurko and the new director of gorplodoovoshchtorg Rashid Aleksandrovich Valiulin, I visited many stores and bases in Tomsk. I must admit that I was grieved to see how the broad assortment of gifts of the fields and gardens were being stored and especially

sold. The trade points are clearly inadequate for the city's population of almost one half million people -- in all, 36 stores with an overall area of 2,200 square meters. They are small and lack auxiliary facilities and mechanization. One fact was very striking at the bases -- despite the shortage of space, they were overloaded with small, green and bitter apples, which were generously made available to the Siberians by suppliers from Uzbekistan, Kirghizia, Moldavia and Kursk and Voronezh Oblasts. A special surprise was provided by the Uzbek horticulturists -- they supplied 714 tons of apples, of which amount 443 tons were of 2d class quality and 270 tons of sub-standard quality.

We were pleased only by the workers in the Kuban region and in Rostov Oblast" stated Nikolay Alekseyevich Shnurko, "Georgia has yet to supply us with one ton of the 2,000 tons of apples and pears ordered."

As a solution for the difficult storage problem, Plodoovoshchkhoz is encouraging the construction of good quality and modern storehouses on farms where products already purchased from a producer are to be retained up to a certain moment. We were shown two such storehouses (for potatoes and table beets) by the director of the Tom' Sovkhoz Rashid Izmailovich Aminov. This is certainly a solution and yet, as the saying goes, a reserve one. It is believed that the rich experience accumulated by the oblast in recent years must play a role in eliminating those problems which develop during the last stage in the food production line.

"It has been said that no judgement is passed on the winners and that it is they who are awarded flowers. There can be no doubt but that the Tomsk workers are deserving of praise. But flowers? The Siberians are proud people and here the Tomsk workers are not standing around waiting for "favors from nature" -- a pioneer in hothouse vegetable production, the municipal Tomich Sovkhoz, has for the fifth time now planted roses, carnations, chrysanthenums, calla lilies and daffodils in its garden seed beds under glass. Thus there will be flowers!

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### FORESTRY AND TIMBER

# PRIMORSKIY KRAY CEDAR TREE EXPLOITATION, MINISTRY ACTION

# Felling of Cedars Criticized

Moscow SEL'SKAYA ZHIZN' in Russian 25 Sep 83 p 4

/Article by P. Braun, Maritime Kray: "Motors Roar in the Cedar Forests"/

/Text/ Cedar trees. There is no need for enumerating the benefits which man derives from this generous giant. It is necessary merely to mention that a cedar forest serves simultaneously as a senctuary for a majority of the animals which inhabit the taiga; it is their feeding area, their doctor and their protector. It has only one "shortcoming": it is too well formed! Its very high growth and great fullness have earned it the reputation of being an extremely productive tree. Hence the arguments: should a cedar tree remain in a forest to the delight of generations or should it lie in a lifeless pile at a lower timber yard?

Practical workers and scientists proved long ago that a live cedar is more profitable by a factor of four than one that has been cut down. Nevertheless, the interest of the timber merchants in obtaining cedar trees has not abated.

The timber procurement specialists have adopted a prudent attitude with regard to this royal tree. Nor do they oppose hunting or gathering nuts in the cedar forests. However, it is unfortunate that the plans for procuring the wood are great in all areas. And cedar trees are viewed as being child's play.

Together with a worker from the Scientific Department of the Sikhote-Alinskiy Sanctuary, Viktor Red'kov, I visited a nearby tree felling area of the Malokemskiy Timber Industry Farm: to see what types of trees were being cut down and how many. The general director of the Primorskles Association F. Shalankov recently confirmed that a great amount of attention is truly being given to protecting the undergrowth and clearing out the felling areas. Terneyskiy Rayon is the most typical taiga region in the Maritime Kray. Here the cedar trees are the objects of great pride and hope. They are protected by two forestry farms. Their competitors -- a pair of timber industry farms and a similar number of state industry farms.

Then there is the plot. It took us 12 hours to reach it. Three skidding tractors and a bulldozer were in operation a short distance away. The

lumber jacks or more accurately the tree felling personnel were skilfully operating their gasoline-powered saws. Frightened birds were darting from tree to tree.

One after another the taiga giants were coming down. The loop of a hawser encircled a trunk. It was dragged along, trampling the forest floor underneath. Such was the work being carried out by the leading enlarged brigade of Aleksandr Yashchenko.

"We are coping with the plan" he stated, "Certainly, it is unfortunate that cedar trees are involved. But what can we do?"

I also encountered a situation similar to the one described above at the timber felling areas of the Terneyskiy Timber Industry Farm. It is not a joyous occasion when one sees mutilated trees and a fertile soil layer created over a period of thousands of years stripped away to reveal rock. In following the forest "shock workers," one now and then comes across piles of trash, twigs and logs or a piece of equipment that broke down and was abandoned in a thicket. During the past year, in Terneyskiy Rayon alone, approximately 435,000 cubic meters of cedar were procured.

"The forests of our farm occupy an area of approximately 650,000 hectares" stated the chief forester Yu. Novikov, "Generally speaking, there are no pure cedar forests at the Terneyskiy Forestry Farm. There are cedar and spruce tracts. Their area is approximately 15 percent of the overall zone covered by trees. I have been performing forestry work for 30 years and it is my opinion that the cedar forest is in need of a breathing spell. The cedar trees are being procured for the most part, with nobody displaying any concern for protecting them."

The world of foresters consists of common workers responsible for carrying out a production plan. The fact of the matter is that some tree felling personnel and even sweepers are not included in the cost accounting procedures and thus on the forestry farms they have been converted from foresters into timber procurement personnel and subsequently they are automatically transformed into transgressors. The forestry farm selected for its plan a cedar forest located in the basin of the Tayezhnaya River and it cuts down small quantities of the trees. Meanwhile, this forest is of the first inviolable group. Under such conditions it is difficult to protect the forest or influence the volume or character of the fellings being carried out by the timber procurement enterprises. Thus axes are used freely in the cedar forest. Quite often uncut areas remain on the plots and there are continual violations of the procurement technology. Here it is appropriate to say: "The forest is cut down and the logs fly."

As is well known, in addition to providing protection a forestry farm is also responsible for cultivating the forest and restoring felled, scorched and dried out thickets. According to the summaries, 700,000 trees were planted in 1982. These were mainly cedar trees. But indeed they will gather strength no earlier than 100 years from now! Nor will they all be acceptable. And will our descendants be grateful to us for this legacy?

"The area of cedar forests has been reduced in size several times" stated a senior scientific worker at the sanctuary Ye. Smirnov, without concealing his annoyance, "only small tracts in the basin of the Tayezhnaya, Zapadnaya Kema and Amga rivers remained uncut. Considering the modern tree felling rates and the mismanagement of the tree-felling sites, the cedar oasis should come to an end in just 5-10 years."

At one time the sanctuary's collective addressed a petition to the RSFSR Minleskhoz /Ministry of the Forest Industry/ and USSR Gosplan concerning the establishment of a nut-trade zone in the cedar forests along the central and upper flow of the Tayezhnaya and Zapadnaya Kema rivers. However this plan was not approved. Obviously, the situation would have been different if the idea had received the support of the rayon's leaders. More than 1 ton of valuable nuts and other taiga products could have been obtained from the cedar oasis.

Scientists attached to the Far Eastern Scientific Center of the USSR Academy of Sciences have warned that the far eastern cedar forest may disappear entirely if effective measures are not undertaken aimed at protecting it. They further maintain that this could happen before the end of this present century. Cedar trees retain water, protect the soil, produce oxygen and, it follows, exert a direct influence on farming and human health. More than 400 types of plants are found growing in the cedar forests of the Central Sikhote-Alin Ridge, with many of them recorded in the "Krasnaya kniga SSSR" /Red Book of the USSR/. What will happen to them?

Forest husbandry confusion can and must be averted by organizing complexes in the cedar forests. Meanwhile, motors roar and the drone of mechanical saws can be heard under the canopy of cedar trees. It is as though nobody is giving any thought to the efficient use of natural resources or to the taiga wealth found in Terneyskiy Rayon -- a region which is unique in terms of its geographic, climatic and ecological characteristics and one requiring an individual determination as to the permissible demands that can be placed upon its forests.

# Forestry Ministry Issues Order

Moscow SEL'SKAYA ZHIZN' in Russian 10 Feb 84 p 3

Article by O. Rozhkov, deputy minister of the forest industry for the RSFSR"
"Motors Rosr in the Cedar Forests"/

/Text/ The RSFSR Ministry of the Forest Industry has examined the material published under the title "Motors Roar in the Cedar Forests" in the 25 September 1983 issue of SEL'SKAYA ZHIZN' and believes that the author raised the problems associated with operation of the cedar forests in a very timely manner.

In recent years the RSFSR Ministry of the Forest Industry has carried out a definite amount of work in connection with the reproduction and conservation of the cedar forests and their all-round utilization.

The estimated felling area in the cedar economy, for the RSFSR on the whole, is being utilized by 23 percent and in the Maritime Kray -- by slightly more

than 50 percent. Excessive cuttings in the estimated felling areas have been terminated in all areas and the plans provide for zonal rules for tree fellings, in which special sections for controlling the use of cedar are included. A considerable portion of the cedar forests has been converted over to forests of the 1st and 2d groups, involving more severe tree felling regimes. Nut-trade zones have been established on an area in excess of 11 million hectares.

All of the cedar tracts are located in the zone of aviation protection for the forests. In the interest of protecting the cedar trees, decisions handed down by oblast (kray) executive committees and the councils of ministers of autonomous republics have prohibited the felling of cedar trees in six oblasts and four autonomous republics. In the Maritime Kray, such fellings are forbidden at 12 forestry farms out of 28 and at 15 forestry establishments.

Based upon the results of a check carried out on the questions raised in the article entitled "Motors Roar in the Cedar Forests," the RSFSR Ministry of the Forest Industry issued an order calling for a reprimend to be issued to the chief forester for the Maritime Forestry Administration. The recommendation has been made to have the Maritime Forestry Administration hand down punishments to those forestry farm workers guilty of tolerating violations of the existing rules for forest utilization by timber procurement specialists. In addition, the RSFSR Minleskhoz /Ministry of the Forest Industry/, jointly with the Maritime and Khabarovsk kray executive committees, has submitted recommendations to the appropriate directive organs for further improving the management of forestry operations in the cedar forests.

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# LAND RECLAMATION AND WATER RESOURCES

### PRAVDA VIEWS PROBLEMS OF IRTYSH WATER LEVELS

PM171604 [Editorial Report] Moscow PRAVDA in Russian 17 Feb 1984 first edition carries on page 3 under the rubric "Man and Nature" a 1,400-word article by A. Minayev entitled "Irtysh Needs Help." The author draws attention to the chronically low water levels in the river Irtysh, caused by conflicting interests of power generation and irrigation workers. He notes that it was hoped that the situation would improve when the Bukhtarma reservoir reached the prescribed level, but 20 years have passed and this has yet to happen. Stockmen and shipping are suffering and the situation is further aggravated by the uneconomical use of water by industry, by sand being dredged from the Irtysh which damages the river bed, and by failure to switch to more economical irrigation methods. The article states: "The situation as regards the river demands most vigorous measures. In Omsk, for instance, the river level sank so low some time ago, that the water intake points and oil pipeline pipes came nearly to the surface. Emergency measures and huge forces and resources were necessary to refit the installations, lower the bed, and safeguard shipping." The author agrees with the view expressed by PRAVDA readers that "the situation as regards the Irtysh is grave and effective measures are necessary."

### USSR SCIENTIST INTERVIEWED ON LAKE POLLUTION

PM091157 [Editorial Report] Moscow TRUD in Russian 8 December 1983 carries on page 4 a 1,600-word interview entitled "Lake in Distress" with V.A. Znamenskiy, deputy director of the USSR Institute of Sciences Institute of Limnology, by S. Smirnov, date and place of interview not specified. In the interview, carried under the "Man and Nature" rubric, Znamenskiy blames the USSR's lake pollution on the disposal of sometimes untreated industrial, agricultural and urban waste, even though calls have been made and, in the case of the Syas pulp and paper combine near Lake Ladoga, "repeated reminders and demands" have been issued to treat waste products adequately before disposal. Znamenskiy outlines measures to be taken to reduce pollution, including the use of "reliable water" and "waste-free processes" in industry and nonchemical fertilizers in agriculture, and names other scientific organizations with which the Institute of Limnology is cooperating in this work.

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